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HOW TO MAKE MARMALADES.

MARMALADE, properly speaking, is a conserve made of quinces and sugar, being derived from the Portuguese *marmello*, a quince. The term now, however, is commonly applied to other fruit-conserves, made by cooks, confectioners, &c. Marmalades are prepared either by pounding the pulp of fruit in a mortar, with an equal or a larger quantity of powdered white sugar, or by mixing them together by heat and passing them through a hair-sieve while hot, and then putting them into pots or glass-jars. The fruit-pulps are obtained by rubbing the fruit through a fine hair-sieve, either at once, or after it has been softened by boiling. When heat is employed in mixing the ingredients, the evaporation should be continued until the marmalade becomes a jelly on cooling. The following are the chief marmalades in common use:—

1. *Quince Marmalade*.—Select your quinces when they are fully ripe, pare and quarter them; take out the cores and put them in a sauce-pan, well tinned; cover them with the parings and spring water; put on a close lid, and let them stew over a slow fire until they are of a pink color; then take out your quinces, beat them to a pulp, and strain off the liquor. Take a pound of loaf-sugar to every pint, boil and skim it well, then put in the quinces and boil gently nearly an hour, stirring constantly. When cold put it in glasses, and tie down tightly.

2. *Apricot Marmalade*.—Pulp of apricots and white sugar equal quantities by weight, prepared as above.

3. *Barberry Marmalade*.—Pulp of barberries and white sugar equal parts, prepared as above.

4. *Tomato Marmalade*.—Prepared as apricot marmalade, with the addition of a few slices of onions and a little parsley.

5. *Wood-Sorrel Marmalade*.—Take sorrel leaves

1 lb.; powdered white sugar 3 lbs.; and beat together in a mortar. Pleasant, cooling, acidulous, and has a fine red color.

6. *Apple Marmalade*.—This is the common apple-butter of the United States, or the *rasiné* of France, the directions for making which will be found on p. 265 of volume v. of the *Agriculturist*, and on p. 290 of the present volume.

APPLE-ORCHARDS.—No. 2.

Soil and Situation.—The apple-tree, to attain its greatest perfection and productiveness, requires a soil more or less calcareous, or one that rests upon strata abounding in marls, marly clays, or calcareous sandstone. It has been observed that the best apple-orchards in England are situated on the marls of the old red sandstone of Herefordshire; and those of the new red sandstone, the marly clays of the lias, and the calcareous and often marly beds of the inferior oolite, in the counties of Worcester, Gloucester, Somerset, and Devon. It has also been observed in Ireland, that the apple-tree flourishes best on limestone-gravel; and in Scotland, that the few orchards which exist in that country, are to be found on soils more or less calcareous. On the continent of Europe, the two districts most famous for the apple are Normandy and the vale of Stutgard, in both of which the soil is well known to abound in lime or marl. It has also been observed, that early fruits attain their greatest perfection in light, moderately rich, sandy soils; and that the late fruits succeed best when planted in a soil that is strong and clayey. Trees will sometimes grow luxuriantly on deep gravels and grauwacke-slate, without bearing apples. It has been found by experience that the above named principles will hold good in the various parts of the United States. Within the last few years, much light has been

thrown upon the adaptation of soils to particular plants, and it is now regarded as an established fact, that the apple-tree requires alkaline and probably earthy bases, as an indispensable condition to the perfection of its fruit. It has been shown by several enlightened chemists that the acids generated in plants are always in union with alkaline or earthy bases, and cannot be produced without their presence, that all deciduous trees require a considerable portion of potash for the elaboration of the juices in their leaves, and that they are prosperous or otherwise, in proportion to the scarcity or abundance of that substance in the soil. It is well known that all clays contain potash, and that marls are principally composed of clay and carbonate of lime, and also contain potash, besides sulphate and phosphate of lime. Hence the presence of alkaline and earthy bases, particularly potash and lime, affords a satisfactory solution of the adaptation of marly soils to the production of apples, even without taking into account the part which phosphate and sulphate of lime play in their formation.*

With regard to the aspect best adapted to orchards, the surface, in general, should be more or less undulating, and at the same time sheltered from the extremes of heat and cold; and it has often been remarked, that abrupt acclivities, which are too steep for tillage by the plow, or for the pasturage of heavy cattle, have been more certain in the production of fruit. Very open, or very elevated, exposed situations, as well as the bottoms of deep-sunk valleys, are alike unfavorable to the perfection of orchards. The former, from the low temperature and the violence of the winds, and the latter, from the liability to cold fogs and late vernal frosts at the time the trees are in blossom, often, in one fatal night, utterly destroy the husbandman's hopes. A severe frost in early autumn, in a single night, may prove equally fatal to the tender flower-buds, in the latter situation, or, if not fatal, sufficiently injurious to impair their vitality, and render them unfit to withstand the cold of the ensuing winter; and, should they escape and put forth the following spring, the fruit will be knotty, blotched, and unfair. In planting an orchard, therefore, in Britain, or in the northern parts of Anglo-America, the site should not be chosen

"In lowly vale, fast by a river side,"

nor, on the contrary, at an elevation too much exposed, but on moderately sheltered southern slopes, and where choice will further permit, inclining rather to the east than to the west. Planting the rows in a northerly and southerly direction, is thought to be advantageous, in order that the trees may derive the greatest benefit from the sun. But in the Middle and Western sections of the United States, more especially if the locality be in the region of large bodies of water, a northern exposure has proved to be decidedly more certain in producing fruit, than slopes inclining towards the south.

Propagation from Seeds.—The apple-tree, and all its varieties, may be propagated from seeds, by grafting, or inoculation, and by cuttings and layers. It is a prevailing opinion in England, that the hardiest and best stocks are those which are raised from the seeds of the wild crab, and Mr. Knight

recommends that the pips should be taken from the fruit before it is pressed. The mode practised in the Goldworth nursery, where fruit-tree-stocks perhaps are raised on a more extensive scale than anywhere else in the world, is to gather the crabs when they are fully ripe, and to lay them either in a heap to rot, or to pass them between two fluted rollers, and then to press out the juice, which is thus converted into an inferior kind of cider, and afterwards to separate the seeds from the pomace by maceration in water, and sifting. It is the opinion of many persons, both in Europe and in America, that it is of little consequence whether they are particular in the selection of seeds for sowing, from the fact that the fruit of trees raised from pips of the same apple differ both from the parent tree and from each other. But let it be considered that, when these variations take place, they may not always tend to deteriorate the fruit, but may often result in an exchange of one good quality for another, or may perhaps even exhibit improvements in the qualities. For instance, we may, at least, expect to obtain early fruit from the seeds of that which is early, and from those of late fruit the reverse; and by parity of reason, from sweet or sour, from juicy or dry fruit, we may also expect to obtain seedlings that will, in a considerable degree, correspond to their origin—a result, which it may often be an object for the cultivator to secure. Indeed, if it be true that it is of "little consequence" what kind of pips we employ, there certainly can be no detriment in sowing seeds of good fruit; and this, we conceive will be a sufficient hint for the prudent nurseryman to observe. The pomace, therefore, should be obtained from the apples of healthy and vigorous trees, and should be thickly strewed, and covered with earth, in shallow trenches about eighteen inches apart, so as to admit of the young plants being well hoed and weeded, by hand, in the following summer. Immediately after the fall of the leaf, in the ensuing autumn, the strongest and the most vigorous plants may be drawn, and planted in rows eighteen inches apart, and the same distance from each other, in a soil previously trenched, manured, and cultivated for garden produce. The remaining plants should be similarly managed in the following year. During their second and third year's growth, the ground should be kept perfectly free from weeds by repeated hoeings, and the plants would be greatly benefited by a light forking between the rows. No knife should be allowed to touch them in this stage, unless it be to shorten an over-rampant shoot, which may be making too strong a diversion from the stem, and not even then, if it be more than a foot from the ground, particularly when it is intended to graft the stem; for every twig and every leaf contributes to the growth of the root and stem. In the second or third year, when the stems of the plants have acquired half an inch or more in diameter, at a foot from the ground, the heads may be cut off, and the operation of grafting or inoculation performed; but where the object is to produce new varieties for standard trees, the plants should be trained in the nursery, with tolerable good heads, clearing the stem generally from lateral shoots, according as circumstances may require. The plants should frequently be hoed, and at least once a year, the ground between the rows

* See Journ. Roy. Ag. Soc. of England, vol. iv., p. 380.

should be dug half a spade deep, turning the top of each spit clean to the bottom, in order that all weeds on the surface may be buried a proper depth to rot. Care must be observed, from year to year, to kill all caterpillars which may devour the leaves of the young trees, and carefully to destroy the eggs of the borer (*Saperda bivittata*), that are deposited near the ground in the stem of the tree. If the borer perforate the wood, which may be known by a wound or excrescence in the bark, it may easily be reached by a pliant wire and crushed to death. The trees will be greatly benefited by rubbing their trunks with a ley of wood-ashes, or strong soap-suds, which will invigorate their growth and tend to ward off all insect attacks.

HOW TO WHITEN LINEN.—Fruit-stains, iron-mould, and other spots on linen, may be removed by applying to the part, previously washed clean, a weak solution of chloride of lime or of soda, oxalic acid, or salts of lemon, in warm water, and often it may be done by merely using a little lemon-juice. The part which contained the stain, or spot, should shortly after be thoroughly rinsed in clear, warm water (without soap), and immediately dried in the sun.

Linen that has acquired a yellow or dingy color by careless washing, may be restored to its former whiteness by working it well in water to which some *strained* solution of chloride of lime or of soda has been added, observing to well rinse it in clean water, both before and after the immersion in the bleaching liquor. Never attempt to bleach *unwashed* linen, and avoid using the liquor too strong, for in that case the fabric will be rendered rotten.

CULTIVATION OF TURNIPS.—No. 4.

Properties and Uses.—The chemical ingredients of which the turnip is composed, whether of the flat-bulbed or globe varieties, Swedish, or hybrid, vary, in their proportions, according to the soil, climate, season in which they are planted, age of the plant, and the application of artificial manures.

The proportion of water in the bulbs and leaves is very variable, that of the bulbs ranging from 86 to 92 ⁷/₁₀ per cent., while that of the leaves varies from 70 to 90 per cent. The excess of water is attributable to the use of artificial manures, as the superphosphate of lime, guano, &c., which may cause three or four tons of turnips to grow upon an acre, but the increased crop may even be less valuable than the smaller produce, the excess of weight being more than counterbalanced by the greater proportion of water. Experience has proved that, by the use of artificial manure, the apparent increase of water (wet weight) in the turnip may be 35 per cent., while the real increase of solid matter (dry weight), may be only 14 per cent. It has been further proved by experiments that a very small deviation in the per centage of water alters materially the value of the crop in feeding properties, so much so that ten tons of one crop may contain as much solid food as twenty tons of another.

The per centage of mineral matter in the bulbs and tops of turnips is also very variable. The turnip-bulb, in its ordinary condition, may contain from ⁴⁸/₁₀₀ to 1 ¹³/₁₀₀ per cent., of mineral matter,

while the ash, given by the tops, contains in almost all cases twice, and in many cases three times as much mineral matter as the bulbs, varying from 1 ¹⁹/₁₀₀ to 2 ⁶⁴/₁₀₀ per cent.

Little or no connexion appears to exist between the amount of mineral matter and the variety of the plant. The flat-bulbs, Swedes (*ruta-baga*), and the intermediate varieties, the hybrids, are in no way distinguished from each other by the quantity of the mineral ingredients they contain; nor do the soil and manures appear always to influence the turnip in these respects, as one sample grown on a chalky soil, manured with 20 single-horse cart-loads of fermented farm-yard manure, almost spent, and seed-drilled in 1 cwt. of bones dissolved in ¹/₄ cwt. sulphuric acid, with 20 bushels of ashes per acre, and another sample grown on dark mould with a subsoil of yellow clay, manured with 10 bushels of soot, and 10 bushels of pure cow-dung, mixed with 20 bushels of ashes, and 1 cwt. of bones with 56 lbs. of sulphuric acid, a very great similarity in the quantity of ash was observed both in the bulb and in the top, and in other cases, a difference may be seen in the mineral contents of two turnips of different varieties growing in the same field with the same manure. But the evidence, on the whole, is in favor of the conclusion that the mineral matter is regulated more by the soil and manure than by the variety, although the distinctive character of the root is never set aside.

The composition of the ash of different specimens of turnips will be seen by the following tables which we copy from a recent volume of the Journal of the Royal Agricultural Society of England:—

COMPOSITION (IN ONE HUNDRED PARTS) OF THE ASH OF TURNIP-BULBS.									
Variety.	Per Centage of Ash.	Skirving's Swede.	Dale's Hybrid.	Dale's Hybrid.	Skirving's Swede.	Skirving's Swede.	Green-top White.	Mean of the six Specimens.	
Silica	2.69	1.73	2.75	1.12	1.63	12.51	.96	1.81	
Phosph. Ac.	9.31	10.17	8.77	10.71	12.51	11.26	7.65	9.85	
Sulph. Ac.	16.13	15.53	11.71	11.22	11.26	9.54	12.86	13.12	
Carb. Ac.	10.74	11.96	12.66	12.05	9.54	11.36	14.82	11.96	
Lime	11.82	14.33	6.46	8.87	11.36	2.44	6.73	9.93	
Magnesia.	3.28	3.27	2.51	1.93	2.44	0.28	2.26	2.61	
Perox. Iron	0.47	0.61	0.14	0.63	0.28	36.16	0.66	0.46	
Potash	23.70	26.88	36.93	32.39	36.16	4.99	48.56	34.10	
Soda	14.75	13.31	8.01	6.71	4.99	9.77	..	7.96	
Chlo. Sodium.	7.05	2.19	10.00	14.30	9.77	..	5.44	8.13	
Chlo. Potass.	..	..	..	..	..	..	..	..
Total	99.93	99.96	99.94	99.93	99.94	99.94	99.94	99.93	

COMPOSITION (IN ONE HUNDRED PARTS) OF THE ASH OF TURNIP-TOPS.						
Variety.	Skirving's Swede.	Skirving's Swede.	Dale's Hybrid.	Dale's Hybrid.	Skirving's Swede.	Mean of the six Specimens.
Per Centage of Ash	1.97	1.95	1.19	2.25	1.61	..
Silica	8.04	1.14	1.36	7.35	4.11	3.99
Phosph. Ac.	4.85	6.21	4.58	11.70	6.54	6.17
Sulph. Ac.	10.36	12.20	6.71	6.99	6.50	8.43
Carb. Ac.	6.18	12.97	13.82	6.10	6.16	9.98
Lime	28.49	30.38	35.10	24.27	23.99	28.49
Magnesia	2.62	3.18	1.75	3.57	2.92	2.81
Perox. Iron	3.02	0.66	0.61	3.09	1.90	1.68
Potash	11.56	20.79	13.53	12.35	20.36	15.21
Soda	12.43	..	4.60	..	..	2.84
Chlo. Sodium	12.41	10.31	18.02	22.70	17.69	15.30
Chlo. Potass.	..	2.09	..	1.84	9.77	5.04
Total	99.96	99.93	99.98	99.96	99.94	99.94

From the first of these tables we may learn that there is a certain and somewhat close resemblance between the composition of the ash of one turnip bulb and that of another. The quantity of phosphoric acid is seen to be tolerably constant, and the alkalies, together, make up nearly the same amount.

The second table exhibits far wider differences in the composition of the ash, the phosphoric acid of one specimen being double that of some others, &c., &c. In the growth of plants of this description, the construction of the materials is supposed to go on in the leaves from which the vegetable matter, when fully worked up, descends into the tubers, and is there deposited. The leaves, therefore, would not only contain their own proper mineral constituents, but the greater part of the excess of such bodies as had entered the plant.

The ash of the top differs from that of the bulb chiefly in containing less phosphoric and sulphuric acids, less potash, but a great deal more lime. Neither in the top nor in the bulb is there much silica, but the ash of both contains much carbonic acid and a considerable quantity of chloride of sodium (common salt). It will be seen that the leaves contain much more of the last-named salt than the bulbs, the quantity in Dale's hybrid amounting to 11½ lbs. to a ton of green tops. This circumstance may, in part, explain the action of turnip-tops in causing purging in sheep when they are first turned upon them to feed. Other alkaline salts, such as the phosphates of soda and potash, and other organic salts of these bases, oxalate, tar-

trate, &c., and which are known as purgatives, exist largely in the leaves of the turnip.

The turnip, like most root-crops, from the great development of its gas-collecting leaves, is believed to be comparatively independent of the soil for vegetable nourishment. It is stated that it may in reality have the property of adding to, rather than taking from, the quantity of vegetable matter in the soil, even when entirely removed—for land has been found after several years cropping with turnips, all the produce being carried off, absolutely richer in organic matter than at first, the plant having returned to the soil more than it had taken from it. This principle is founded upon the belief that in the circulation of the vegetable juices of the plants there is a continual ejection into the soil of matters not required in the economy of their growth; but whether the amount thus voided much exceeds that which is taken in by the roots, it is difficult to decide. It is extremely likely, however, that in broad-leaved plants of rapid growth this result may sometimes occur.*

The turnip is one of the most valuable roots for culinary or economical use. Its young tops when boiled afford a good substitute for greens. The bulbs are very useful in fattening cattle of every kind. Thus if sheep be properly fed with them, their flesh will acquire a delicate flavor; and it is well known that they will speedily fatten on the tops, without eating the roots. Turnips likewise afford an invigorating food to horses; and, when cut into small pieces, these animals will be induced to eat chaff and other provender with an increased appetite. Cows devour both the tops and roots with equal avidity; but they are apt to impart an unpleasant flavor to their milk. The last-named circumstance and the mode of feeding out the crop are subjects for future consideration.

SALTING MEAT.

THE sooner meat is salted after being killed the better, as it then possesses considerable absorbent power, which it gradually loses by age, and when it once becomes putrid it can never be salted at all. One of the best modes of curing is, to rub the meat well with a mixture of common rock-salt 2 lbs.; saltpetre 2 oz.; and moist sugar 1½ oz., till every crevice is thoroughly penetrated, after which it should be set aside till the next day, when it should be covered with fresh salt in such parts as have been most exposed. It may then be advantageously placed in a proper vessel and subjected to pressure, adding a little more salt as may be necessary, and turning it daily till sufficiently cured.

When the brine, as it forms, is allowed to drain from the meat, the process is called *dry-salting*; but when, on the contrary, it is allowed to remain on it, the mode is called *wet-salted*. On a small scale, the latter is most conveniently performed by rubbing the meat with salt, &c., as above directed; and after it has lain a few hours, putting it into a pickle formed by dissolving 4 lbs. of rock-salt, ½ lb. of sugar, and 2 oz. of saltpetre in 2 gallons of water. This pickling liquor becomes weaker by use, and should therefore be occasionally boiled down a little and skimmed, adding, at the same time, more of the dried ingredients.

* Journ. Roy. Ag. Soc. of England, vol. viii., pp. 135 et seq.

NEW YORK FARMERS' CLUB.

Good Effects of Deep Plowing.—Hon. Dixon H. Lewis, of Alabama, on being called upon by the President of this Club, a few months since, for some observations on Southern Agriculture, remarked that, by a long course of cultivation, land becomes exhausted at the surface, and consequently deep plowing is requisite to bring up the subsoil, in order to impart to growing plants the greatest possible amount of nutriment. He stated that he had planted corn for some twenty years, and that his crops formerly averaged from fifty to seventy bushels per acre; but late years, they had not amounted to more than thirty to forty-five bushels to the acre—the reduction being caused, as he thought, in consequence of shallow plowing.

To remedy the evil, Mr. Lewis put in operation on his plantation, a subsoil-plow driven into the ground with the full strength of three horses, sixteen inches deep, so that the subsoil was turned up to the surface from that depth. From the accounts he had last received from his overseer, the prospects of his corn-crop, for the present season, bid fair to yield double the product of the last few years past, which he attributed mainly to the use of the subsoil-plow.

Prepared Guano.—A circular and advertisement from S. F. Halsey, of New York, were distributed among the members of the club purporting to sell a Prepared Guano at *One Cent per Pound!* Guano, as imported in its crude state, is represented as *not fit for use!* According to the language of the advertiser, "It usually contains at least twenty per cent. of water, which is a heavy loss to the farmer. Crystals of ammonia also abound in it, so that if it be employed in its crude condition, it proves greatly too powerful for any kind of vegetation."

"In the 'Prepared Guano,' these defects are remedied. Being combined with the most fertilizing absorbents, they prevent the escape of the ammonia and give it out to vegetation, only as it requires it. What they thus part with to plants, they again attract from the atmosphere, which renders the 'Prepared Guano' durable and permanently nutritive for years!" It is stated that, "last spring the demand was so extensive, that many orders unavoidably remained unexecuted," and that "applications should therefore be made early, for the fall and winter crops, a large quantity having been prepared in anticipation" (a).

(a) Whenever a new invention or a discovery is offered for public use, or for experiment, that appears to possess merit and bids fair to be applied with a tolerable degree of success, we are ever among the first to encourage its adoption; but when the farmer or the gardener is beset by a gross humbug, or is liable to be led into error, either by ignorance or design, we, as public journalists, consider it our duty to apprise him of it, after which he may be governed by his own choice.

Of the article above referred to, in itself, we possess no knowledge; but as the principles set forth by the advertiser are at variance with the experience of practical men, and with a full belief that every farmer can prepare his own guano, at a cheaper rate than "one cent per pound," we do not

feel justified in suffering the subject to pass in silence.

In the outset, directly in the face of the fact that guano has been annually used for several years as a fertilizer both in Europe and in America, by thousands of tons, and has been attended with the most unequivocal and beneficial results, we are told by the advertiser, that, as imported, it "is not fit for use." Again, for him to say that good Peruvian guano abounds in crystals of ammonia, or that it contains twenty per cent. of water, would be equally unfounded. His theory, too, in regard to the "absorbents" of his compound attracting ammonia from the atmosphere in sufficient abundance to produce a good crop of grain, or that any one preparation of manure can be made "permanently nutritive" for such a crop, is not in accordance with the dictates of reason nor with practical experience. It is true that it was argued by Liebig, a few years ago, that the atmosphere can supply the ammonia from which plants derive their nitrogen, in sufficient quantity for agricultural purposes; but his views on this subject have since been changed; yet the farmer should bear in mind that agricultural plants, which practice has shown to differ widely from each other in their respective relations to soil, climate, manuring, and position in rotation, possess, at the same time, widely different powers of reliance upon the atmosphere for the constituents which it is known to supply in a greater or less degree.

Guano, it is well known owes its fertilizing properties principally to the ammonia it contains; and ammonia, when liberated, is a highly volatile substance, which must be obvious to every one who has sown guano on a hot day, from the scent caused by its best part (the ammonia) escaping into the air instead of being kept in the ground. This ammonia may be deprived of its power of volatility, in ordinary temperatures, by mixing 300 lbs. of Peruvian guano with an equal weight of ground plaster (gypsum), to which should be added at least 600 lbs. of dry leaf-mould or pulverized peat, the whole to be thoroughly incorporated and kept free from moisture or wet. By so doing, the farmer will not only economize in the use of his guano, but render its effects more lasting, and will obtain an excellent fertilizer for an acre of almost every kind of crop for less than three-fourths of a cent per pound.

THE DOMESTIC FLORA OF CHINA.—No. 4.

Cemeteries.—During the summer which had now passed by, I had had frequent opportunities of inspecting the tombs of the Chinese both in the northern and southern districts. In the south, the natives form no regular cemeteries or churchyards, as we do in Europe, but the tombs of the dead are scattered all over the sides of the hills, the most pleasant situations being generally selected. The more wealthy individuals often convey their dead a considerable distance, and employ a kind of fortune-teller, whose duty it is to find out the most appropriate resting-place. This man goes with the corpse to the place appointed, and of course pretends to be very wise in the selection of the spot, as well as in the choice of the soil with which the ashes of the dead are to mingle in after years; and upon trial, should the particular earth appear unsuitable, he immediately orders the procession off to some

other place in the neighborhood, where he expects to be more successful.

A situation on the hill-side is also considered of great importance, especially if it commands a view of a beautiful bay or lake. But I believe that of all places the one most coveted is where a winding stream, in its course, passes and then returns again to the foot of the hill where the grave is to be made. The director of the ceremonies, with a compass in his hand, settles the direction in which the body is to lie, which is another point of great importance. An intelligent Chinese, with whom I was acquainted, informed me that this fortune-teller of the dead is often very eloquent in his descriptions of the future happiness of those who obey his directions; he informs them that they or their children, or some one in whom they are much interested, shall enjoy riches and honors in after life, as a reward for the attention and respect they have paid to the remains of their fathers; that as the stream which they then behold when standing around their father's grave flows and returns again in its windings, so shall their path through life be smooth and pleasant until they sink into the tomb hoary with years, respected, beloved, and mourned by their children.

In my travels in the south of China I often came upon graves in the most retired places amongst the hills; they were all more or less of the same form, namely, a half-circle cut out of the hill-side, having the body interred behind it. Sometimes, indeed generally, there were several of these half-circles with a succession of terraces in front of the grave; and in the burying-places of the more wealthy, the semi-circles were built of brick or stone, and on a more extensive scale. In the centre of the semi-circle, and of course near the body, the gravestone is placed with its inscription. M. Callery, an excellent Chinese scholar, informed me that these inscriptions are always of the most simple kind, merely stating the name of the deceased, that he died in such a dynasty, in such a year. This is the plain and unflattering tale which the Chinese tombstone tells. In some instances—I cannot tell if in all—after the body has decayed, the bones are dug up, and carefully put into earthenware vessels, which are then placed on the hill-side above ground.

I was once or twice in the wild mountain districts in the interior, at the time when the natives visited the tombs. Even the most retired parts had their visitors, and it was both pleasing and affecting to see the little groups assembled round the graves, paying the tribute of affection to those whose memory they revered and loved. The widow was seen kneeling by the grave of her lost husband; children, often very young, shedding tears of sorrow for a father or mother; and, sometimes, an old man whose hair was white with age, was there mourning the loss of those whom he had looked to as the support of his declining years. All were cutting the long grass and weeds which were growing round the tombs, and planting their favorite flowers to bloom and to decorate them.

I believe that the wealthy in these districts generally bury their dead, and some of them build very chaste and beautiful tombs. There are three or four very fine ones in the island of Chusan, where the paving in front of the mound which contains

the body is beautiful, and the carving elaborate; the whole of the stone-work is square, instead of circular as in the tombs in the south of China. Here, as at home—and I believe in every part of the world—trees of the pine-tribe are generally planted in the burying-grounds. Lord Jocelyn, in his "Campaign in China," mentions such places in the following beautiful and appropriate language:—"Here and there as if dropped at random upon the sides of the hills, were clumps of pine-trees, and peeping through their thick foliage, the roofs of houses and temples diversified the scene. Amongst many of the beautiful groves of trees which here invite the wanderer to repose, spots are selected as the resting-places of mortality; and gazing on those tranquil scenes, where the sweet clematis and fragrant flowers help to decorate the last home of man, the most careless eye cannot fail to mark the beauties of the grave."

The flowers which the Chinese plant on or among the tombs are simple and beautiful in their kind. No expensive camellias, moutans, or other of the finer ornaments of the garden are chosen for this purpose. Sometimes the conical mound of earth,—when the grave is of this kind,—is crowned with a large plant of fine, tall, waving grass; at Ningpo wild roses are planted, which soon spread themselves over the grave, and when their flowers expand in spring, cover it with a sheet of pure white. At Shanghai a pretty bulbous plant, a species of *Lycoris*, covers the graves in autumn with masses of brilliant purple. When I first discovered the *Anemone japonica*, it was in full flower amongst the graves of the natives, which are round the ramparts of Shanghai; it blooms in November, when other flowers have gone by, and is a most appropriate ornament to the last resting-places of the dead.

WHEAT-CROPS INCREASED BY AMMONIACAL MANURES.

On a space of ground cultivated in 1843, by Mr. J. B. Lawes, of Rothamsted, England, which had not been manured, the yield per acre was 16½ bushels of wheat, and 1,116 lbs. of straw. This may be considered as the natural produce of the soil, subject only to the atmospheric influence of that particular season. The same space of ground was cultivated and manured for three consecutive years, with the following results:—

In 1844, the application of 560 lbs. of burnt bones and 220 lbs. of silicate of potass, produced 16 bushels of wheat and 1,112 lbs. of straw.

In 1845, 1½ cwt. each, of sulphate and muriate of ammonia, produced 31½ bushels of wheat and 4,266 lbs. of straw.

In 1846, 2 cwt. of sulphate of ammonia yielded 27½ bushels of wheat and 2,244 lbs. of straw.

In another experiment, a quantity of farm-yard manure was weighed into two portions, at the rate of 14 tons each per acre, one being burnt to ashes, and the other plowed into the soil; the product of the unburnt dung was 22 bushels of wheat and 1,476 lbs. of straw; and that of the ash, 16 bushels of wheat and 1,104 lbs. of straw.

Hence the absolute necessity of supplying nitrogen (the essential part of ammonia), to enable the soil to produce more wheat than it could do in a natural state.

CHOICE OF TREES AND SHRUBS FOR CITIES AND RURAL TOWNS.—No. 4.

Of all American trees that have been cultivated, either at home or abroad, there is no one of which so much has been said as the *Common Locust*. In the year 1823, an extraordinary excitement was produced in England concerning this tree, by William Cobbett, who resided in America from 1817 to 1819, and chiefly occupied himself in farming and gardening, on Long Island, near New York; and during that period, as he tells us in his "Woodlands," published in 1825 to 1828, he was convinced that nothing in the timber way could be of so great a benefit as the general cultivation of this tree. "Thus thinking," continues he, "I brought home a parcel of the seed with me in 1819, but I had no means of sowing it till 1823. I then began sowing it, but upon a very small scale. I sold the plants; and since that time I have sold altogether more than a million of them!" Elsewhere, in the same work, he more especially directed attention to this subject, urging, in his clear and forcible manner, the immense importance of this tree in ship-building; and he was the means of thousands of it being planted in various parts of Britain. The name of *locust*, as applied to this tree, before Cobbett's time, was but little known in England, and many persons, in consequence, thought it was a new tree. Cobbett had a large kitchen-garden behind his house at Kensington, which he converted into a nursery; and he also grew trees extensively on his farm at Barnes, in Surrey. Although hundreds of the *Robinia pseudacacia* stood unasked for in the British nurseries, the "locust plants," which every one believed could only be had genuine from Mr. Cobbett, could not be grown by him in sufficient quantities to supply the demand. He imported the seeds in tons; but when he fell short of the real American ones, he procured others, as well as young plants, from the London nurseries, and passed them off as his own raising or importation. Had the people of England known that locust-seeds and locust-plants were so easily to be obtained, it is probable that the locust-mania would never have attained the height it did. To show the folly, or the knavery of this extraordinary individual, I will quote the following from Loudon's "Arboretum Britannicum," which should be preserved more as a literary curiosity rather than a historical record. "It is worthy of notice," says Loudon, "that Cobbett, apparently without ever having seen a hop-pole made of locust, boldly affirms that the tree is admirably adapted for that purpose; that trees from his nursery, after being four years planted on Lord Radnor's estate, at Coleshill, were 'fit for hop-poles, that will last in that capacity for twenty or thirty years at least,' that 'such poles are worth a shilling each (that is, nearly double what was at that time the price of good ash hop-poles); that 'five acres would thus, in five years, produce £529; and that 'each stump, left after the pole was cut down, would send up two or three poles for the next crop, which, being cut down in their turn, at the end of another five years, would, of course, produce two or three times the above sum!' that locust-wood is 'absolutely indestructible by the powers of earth, air, and water;' and that 'no man in America will pretend to say that he ever saw a bit of it in a decayed state.'

After this, it will not be wondered at that Cobbett should call the locust 'the tree of trees,' and that he should eulogize it in the following passage, which is so characteristic of the man, and so well exemplifies the kind of quackery in which he dealt, that we quote it entire:—'The time will come,' he observes, 'and it will not be very distant, when the locust-tree will be more common in England than the oak; when a man would be thought mad if he used anything but locust in the making of sills, posts, gates, joists, feet for rick-stands, stocks and axle-trees for wheels, hop-poles, pales, or for anything where there is liability to rot. This time will not be distant, seeing that the locust grows so fast. The next race of children but one, that is to say, those who will be born sixty years hence, will think that the locust-trees have always been the most numerous trees in England; and some curious writer of a century or two hence, will tell his readers that, wonderful as it may seem, 'the locust was introduced to a knowledge of it by William Cobbett.' What he will say of me besides, I do not know; but I know that he will say this of me. I enter upon this account, therefore, knowing that I am writing for centuries and centuries to come.'"

In America, the locust has been planted for ornament in great abundance about farm-houses, and along fences and avenues, for more than fifty years; and since the forests were in a measure destroyed by the axe or fire, by the European settlers, along the seaboard and navigable waters inland, many persons in the Middle and Eastern States have cultivated this tree with a view to profit, and have not only supplied timber and trenails to the shipwrights of the cities or commercial towns, but have exported large quantities to England and elsewhere. These plantations seldom exceed an area of thirty acres, notwithstanding the agricultural societies of several States have offered premiums for their encouragement. Though the *Robinia* had never been known to be injured by any insect, towards the end of the last century, in Massachusetts, it was generally attacked by the larvæ of the *Cossus robinia*, which gradually extended their ravages to the southernmost points where this tree has been propagated. In consequence of this discouragement, the locust has been but little cultivated for the last twenty years in any part of the United States, or in Canada, except for the purposes of ornament or shade. In a communication received by me from Mr. Stephen H. Smith, of Smithfield, in Rhode Island, dated on the 22d of November, 1844, he states that, in the winter of 1817, he cut from a lot a heavy growth of timber, principally chestnut. The soil on which it grew, is a rich loam, on a slightly tenacious subsoil. In the following spring, he set out in the same ground, at equal distance, about one hundred good-sized, yellow locust-trees to the acre. They kept pace with the natural growth of the forest that sprang up about them. In 1837, twenty years after, all the wood was again cut off the same lot, producing twenty cords to the acre, the locusts measuring at the stump from nine to twelve inches in diameter, each tree making three posts, seven feet long. The sprouts and offsets now occupy one-half the ground to the exclusion of a portion of the native timber

* Arboretum Britannicum, pp 621 et 622

The borers have not assailed these trees at any time. It may be reasonable to conclude that the thick underwood has protected them from this enemy; as those standing near, in open, cultivated ground of like quality, have not escaped.

As an ornamental tree, the locust, with its light and elegant foliage, its sweetly perfumed flowers, its beautiful pendent form, often "feathering to the ground," will always be entitled to a place in our parks, lawns, and pleasure grounds; but, as Gilpin says, "its beauty is frail, and it is of all trees the least able to endure the blast. In some sheltered spot it may ornament a garden; but it is by no means qualified to adorn a country. Its wood is of so brittle a texture, especially when it is encumbered with a weight of foliage, that you can never depend upon its aid in filling up the part you wish. The branch you admire to-day may be demolished to-morrow. The misfortune is, the acacia is not one of those grand objects, like the oak, whose dignity is often increased by ruin. It depends on its beauty, rather than on its grandeur, which is a quality more liable to injury. I may add, however, in its favor, that, if it be easily injured, it repairs the injury more quickly than any other tree." It has also "the further disadvantage of coming late into leaf, and being among the very first to cast its foliage in autumn, and this without undergoing any change of color, or exhibiting those beautiful and mellow tints which enrich the landscape at this season of the year."

The *Rose-flowering Locust* has sparingly been planted, as an ornamental tree, but less so than the preceding species, and as such, from its medium size, rapidity of growth, and its large, conspicuous roseate flowers, it well deserves a place in every collection. But, let it be remembered, that, like the common locust, its creeping roots are a great nuisance in all cultivated grounds, that its leaves and wood are attacked in a similar manner by insects, and that the tree itself is comparatively short-lived.

The *Honey-Locust*, or *Three-thorned Gleditsia*, has also been extensively cultivated as a hedge-plant, as well as a shade-tree, throughout the Atlantic States, from the banks of the Mohawk to those of the Savannah. For the last-named purposes, from its delicate, light-green foliage, which is rarely attacked by insects, and the beautifully varied, graceful, and picturesque forms it often assumes, with the singular features afforded by its large pods and spines, when sparingly planted in parks and other ornamental grounds, it holds a high rank. As a hedge-plant, however, or as a tree for shading crowded streets in town, it does not appear to be well adapted.—*Transactions of N. Y. State Agricultural Society.*

IMPORTANT FACT IN AGRICULTURE.—Whatever may be the nature of the soil, or of the crop cultivated, it should always be the aim of the farmer to grow full crops. Partial and sometimes extensive failures will even then but too often occur; but to neglect making the best known preparations, or only to prepare for half a crop, is an ill-judged notion, and has a direct tendency to unprofitable farming.

* *Trees of America*, pp. 203 and 208.

LETTERS FROM VIRGINIA.—No. 1.

It may not be unknown to you, nor to the great mass of your readers, that within a few years past, an unusual and extraordinary current of emigration has been setting from the Northern and Eastern States, in this direction. Heretofore, and up to a very recent period, the fertile valleys, virgin wilderness, and illimitable prairies of the West have exerted a magnetic influence upon the restless and enterprising sons of New England and New York; and leaving the "Old Thirteen" far in their rear, these hardy and indomitable pioneers of an advancing civilization have boldly fronted and successfully encountered obstacles which would have appalled less dauntless spirits and less sinewy frames, until the vast territory included between the Mississippi River and the Rocky Mountains has already become dotted with the abodes of industry and wealth. While this great "movement" of the age has been in progress, it has, comparatively speaking, drained the Atlantic frontier of those elements of its strength and greatness which originally constituted its patrimony, and by means of which it became what it was. Probably no one State in this older-settled portion of the Union affords a more striking example of this result than the "Ancient Dominion" of Virginia—the nursing mother of patriots, heroes, and statesmen—great in all the essential elements of individual, social, and political well being—rich in historical associations—with a soil abounding in all that could tempt or reward the agriculturist, the miner, the manufacturer—with advantages of position, equal, and in many respects superior to those of any of the confederated States; and during a long period, exercising, through her eminently gifted sons, a predominating influence over the fortune and destinies of the nation.

Her population has not only failed to keep pace with that of her more enterprising sisters, but her rich resources, mineral, agricultural, manufacturing, and mercantile, have been suffered to run to waste. The soil has been over-tasked in one portion and miserably neglected in another; her internal improvements have been, one after another, abandoned; her manufactories become dismantled, and her noble mountains, hills, valleys, and plains deserted.

At the termination of the revolution, in which her gallant sons played so conspicuous a part, her free white population amounted to 442,000 souls, while that of Pennsylvania was but 424,000, that of New York 314,000, and that of Massachusetts 373,000. In 1800, while Virginia could enumerate only 514,280, New York had advanced to 556,000, and Pennsylvania to 586,000. In 1810, New York had a population of 918,699; Pennsylvania of 786,804; while Virginia stood at 551,534. In 1820, New York had increased to 1,333,445; Ohio nearly to, and Pennsylvania to upwards of a million, while Virginia, already reduced to the rank of a fourth-rate State, numbered 603,337 only. Ten years later, New York numbered 1,868,000; Pennsylvania 1,309,900; and Virginia 694,300. In 1840, New York had considerably exceeded two millions. Pennsylvania and Ohio, each a million and a half, while Virginia had only attained to the comparatively meagre standard of 740,968. At the present time, while New York has *eight times* the

population with which she commenced an independent existence, and Pennsylvania has more than quadrupled her numbers, Virginia, with a territory more ample, and internal resources far superior to either, has failed even to double her population, and has fallen in this respect from the first to the fourth or fifth State in the Union.

To the practical statesman and political economist these facts present a most interesting problem for solution; and whatever may be the future destiny of this ancient commonwealth, the causes, proximate or remote, which have thus operated in paralysing her energies and crippling her advancement, should be faithfully and thoroughly investigated, and the results communicated for the benefit of all who feel an interest in the progress of civilization. My present intention is to speak of Virginia as she is; not as she has been, or might have been, under other and different circumstances from those in which she is now placed; and although I may find it necessary in the course of my remarks to institute a comparison between her present condition and that of those of her sister States who entered on their political career at the same time, and under far less favorable auspices, I trust I shall do so in a spirit of kindness, and with no desire to excite any other than the most friendly feelings of social and political rivalry, between portions of the same great and united family, bound together by the strongest ties of interest and mutual regard, travelling the same common road—partakers of the same common destiny—and enjoying the same noble inheritance.

A residence of less than a single year in this portion of the Union may seem inadequate to a fair comprehension and a just exposition of its condition; but it will be borne in mind that the first impressions are not unfrequently the best and most accurate; that an impartial and unprejudiced observer is not seldom in a condition to take a more comprehensive view and to form a better appreciation of events, their probable causes and effects, and the bearing which they may have on the present and future, than those more immediately interested in their occurrences, and actively participating in their results; and that the record of these impressions, and the frank, friendly, and at the same time dispassionate expression of views and opinions thus involuntarily imbibed and honestly entertained, while it cannot injure the cause of truth, may add somewhat to the stock of existing knowledge, and at all events, it is to be hoped, excite inquiry and reflection, even if it should fail to lead to more beneficial consequences.

I am free to confess, in the outset, that when, and as often as I reflect upon the genial, healthful, and lovely climate of Virginia, its transparent and cloudless skies, its refreshing breezes, its abundant and exhaustless foliage, its comparative exemption from wintry frosts and storms, its unrivalled facilities for markets, its fertile and varied soil, capable of producing nearly every species of crops demanded by the diversified wants of modern civilization, luxury, and refinement, and in quantities unsurpassed, at least, if not unequalled in any other portion of the Union—its inexhaustible mines of coal, iron, copper, and other valuable minerals and metals—its noble streams, bays, and harbors—its lofty range of mountains—and its territorial advantages,

with reference as well to the seat of the general government as to the adjoining States—when I take into consideration all these circumstances, I am utterly at a loss to account upon any satisfactory principles for the dearth of population, the comparative absence of capital and enterprise, the neglect, often amounting to absolute waste of the land, the cheap rate at which it is held, and more than all, the indifference with which, until very recently, the inducements thus held out to immigration from other States and countries have been regarded. It was not without an accurate and thorough knowledge of the condition and capabilities of this favored region, in an agricultural point of view, that her greatest son, the immortal WASHINGTON, in a letter to Sir John Sinclair, described it as “the Garden of America.” Nor was it without the spirit of prophecy that he added these memorable predictions: “Notwithstanding these obstacles [the embarrassments arising from defective naturalization laws, and the prevalence of slavery], and although I may incur the charge of partiality in hazarding such an opinion at this time, I do not hesitate to pronounce that the lands on the waters of the Potomac, will, in a few years, be in greater demand, and in higher estimation, than in any other part of the United States.” A NEW-YORKER.

LETTERS FROM THE SOUTH.—No. 11.

ONE word in passing before I proceed on my route. There is one source of economy that might be practised by many of our Southern planters, with little trouble or inconvenience to themselves, and with a large aggregate profit. The wool and pelts from sheep, and hides from cattle slaughtered on the plantation, are seldom saved through a large section of the county; when, if the wool were washed, sheared, and packed, and the skins properly dried, all would command a good market at the nearest shipping port. When the weather is cool, the hides will cure sufficiently by being suspended in a free circulation of air; or if hot, then rub salt, or a good coating of wood-ashes on the flesh-side, or roll them up in salt and forward to market.

From 5 to 20 head of cattle, and 20 to 100 sheep, are or should be annually slaughtered on every plantation, and the amount that might be thus saved, would support a good school in every well settled district in the country.

In Louisiana I found an enterprising Yankee from the old Key-stone State, buying up whatever wool there was to be sold among the planters, and when their hands were too busy to attend to shearing their flocks, he kindly lent a hand, sometimes taking half and sometimes the whole for the operation. These and other small items may seem inconsiderable in comparison with the cane and cotton crops, but when saved without expense, they are equally worthy attention to the amount of product.

The highly cultivated banks of the Mississippi, which extend from 60 miles below to nearly 200 above New Orleans, on both sides of the river, begin to hold but a divided empire with the original forest, some 40 or 50 miles below the mouth of Red River. This comes nearly up to latitude 31°, and approximates to the extreme northern limits to which the culture of the cane has hitherto attained.

A few plantations have been recently commenced on the latter river, with every prospect of success; but the low delta at its outlet and for a long distance both above and below, has hitherto kept its cultivation in check over an extensive space on the river banks.

The terms high and low land have altogether a local meaning in this region. The latter throughout the delta, includes only such as is so much subject to overflow as to be unfit for cultivation, while the former embraces all that by dykes and ditches may be kept from destructive inundation, much of it being some feet below the high flood of the river, or bayous. *Hill-land* (or occasionally *prairie*) is the term here used to designate all the elevations not exclusively of deltal formation. This comes down to the river, as at Baton Rouge, Natchez, Vicksburg, Memphis, the Chickasaw Bluffs, and a few other points on the east; but on the west, it is seen only at Helena, just below the outlet of the St. Francis, in Arkansas, till we reach Commerce, in Missouri, a pretty hamlet of some half dozen houses, 1,200 miles above the Gulf. This whole region on the right bank of the river, extending in some cases (as in the intervening space between the Tensas and beyond, and much of that below Red River) to more than 70 miles due west of the river, is exclusively formed from the alluvion of the Mississippi; nor is it scarcely less extensive on the east, where it spreads beyond the Yazoo, and its tributaries for a considerable distance north and south, through more than an entire degree of longitude; so vast and so fertile a territory has been formed by the sole agency of the floods, within a comparatively recent period.

By far the largest portion of this country is wilderness, "untouched, magnificent wilderness." Including a wide range on either side of the river, probably not one acre in 500 is at this moment under good cultivation, through no inconsiderable part of the distance between Vicksburg and St. Genevieve, in Missouri; and though an occasional and sometimes a frequent clearing, indicates the presence of the settler, yet the agricultural treasures of this portion of the Mississippi valley have scarcely begun to be developed.

The wild fowl, geese, brant, ducks, the white and blue crane, the fish-hawk, the eagle (and sometimes the swan), in countless numbers, still occupy this their ancient domain in their appropriate seasons, and "the father of waters," in almost solitary grandeur, ceaselessly rolls on his turbid, resistless flood to the Gulf.

Memphis is pleasantly situated on a bank, some 50 feet high, is regularly laid out, substantially and tastefully built up, enjoys a large trade, and is rapidly increasing. It is said to contain already about 10,000 people. Helena, just below the outlet of the St. Francis, in Arkansas, is also a flourishing, busy place, with about 5,000 inhabitants. There are numerous other sites with ambitious names, containing from half a dozen to twenty or thirty houses, many of which are doubtless the germs of future emporiums of trade, when the surrounding country shall have become settled.

Cairo, occupying the point of lowland at the junction of the Ohio, enjoys less trade and already more dilapidation than its ancient namesake. A

part of the embryo city is fenced in against the incursion of the floods, by a levee some 15 feet high, which is mostly used for corn and cabbage gardens. A long, dilapidated, unoccupied tavern, and some 20 or 30 indifferent buildings, make up the sum total of improvements. The hulk of an old steamboat, well fitted up, and moored to the bank, accommodates the passengers with a temporary resting place, between the exchanges from one boat to another, which makes up the leading business of this place. Thebes, on the east bank, some 30 miles above, is a county seat with a dozen houses. Its new and showy court-house stands on an elevated bluff, overlooking the river, and is densely surrounded with forest-trees, which it is presumed will be remorselessly levelled at the first leisure moment.

At Cape Girardeau, on the Missouri side, we first discover a high, projecting, rocky bank, though there are some minor specimens below. This is an ancient French settlement, and the present site of a showy Roman Catholic Asylum. There is a quarry here which yields small blocks of white marble. Blocks of immense size are furnished 55 miles below St. Louis, at the quarries in St. Genevieve, the oldest of the French towns in Missouri. Herculaneum, with its dozen rustic looking buildings, has been shorn of its temporary importance as a shipping port for the lead mines in the vicinity, and become an inland city from the alluvial deposit in front of its once accessible banks.

Much of the western, and some of the eastern bank of the river, for 150 miles below St. Louis, is bordered by frequent detached or continuous picturesque bluffs. They sometimes recede in graceful swells from the bank and are covered with trees to their tops, or they come boldly to the water's edge, and with their rocky bases, worn into a thousand fantastic shapes by ages of the downward currents, they seem to defy further encroachment from this ever-shifting stream. Castle-Rock, 100 miles below St. Louis, is a circular isolated precipice surrounded by the water, some 80 feet high by 50 diameter, presenting an expanding base and overhanging capital, surmounted by a dense tuft of luxuriant shrubs. The double face presented to us, has all the regularity of a work of art, and might well be mistaken for the relic of some by-gone age of Titans. A much larger quadrangular rock, a few rods inland from the opposite shore, was the legendary retreat of the exploring party under Lewis and Clarke, in their three years journey to the then unknown Oregon.

Extensive low-lands border the east bank of the river, similar to the delta below the Ohio. One of these, called the American bottom, opposite St. Louis, extends some 60 miles in length by 8 to 12 in width, and is of unsurpassed fertility; but as it is unhealthy and subject to overflow, little progress has yet been made in reclaiming and cultivating it. When our population becomes straitened for subsistence, as in Holland and elsewhere, millions of people will be crowded on to the lowlands of the Mississippi, which, by the aid of dykes and draining wheels, will be made to contribute in unstinted measure to the wants of the human race.

St. Louis is pleasantly situated on an elevated bank, is handsomely built, almost entirely of brick and stone, and is enjoying a large, prosperous, and

increasing trade. It is said to contain about 50,000 inhabitants. Here, at a distance of 1,400 miles from the Gulf of Mexico, is a new starting point for a further inland navigation to the north, of 1,000 miles by the Mississippi; to the west of 2,000 by the Missouri; to the northeast, 1,000 by the Wisconsin, and 400 by the Illinois; and to the east, 1,200 by the Ohio. Through all of these and their countless tributaries, is the mighty West continually pouring out its teeming products to the seaboard. Through the Mississippi alone, one only of the outlets of this valley, there will probably be transported to a market, more than \$100,000,000 in the surplus agricultural products of last season, and that not an abundant one. If such are the results of a single half century's enterprise, by the surplus progeny of a people numbering but little more than 3,000,000 at its commencement, what must be the results of future centuries of similar enterprise, with the accumulating ratio of our skill and population?

There are usually from 60 to 70 steamboats lying at St. Louis, destined to every accessible port. I took one, out of five or six, bound for the extreme limits of navigation on the Illinois. We had 100 passengers on board, including one bishop, one governor, sundry colonels, and some 50 returning volunteers, officers and privates. About one-half only of those enlisted in one of the Illinois regiments, will reach their homes in safety; while of those composing another from Mississippi, that I had before come in contact with, it is estimated that only one-third will again greet the home and the friends they left but a twelvemonth since; and many of these, from their association and habits, have become both morally and physically unfitted for any useful employment hereafter. Exposure, disease, dissipation, and Mexican weapons have scattered the bones of the remainder from the Mississippi to Cierro Gordo. Such are a part, and a small part only, of the evils of a war, unnecessarily undertaken, in the middle of the nineteenth century, by a nation claiming a pre-eminence in civilization!

Our route was to the mouth of the Missouri, 20 miles, where we took a final leave of the muddy waters that mar the beauty of the stream, the whole distance to the Gulf; thence past Alton 5 miles above, a thriving place of 4 or 5,000 people; thence 20 miles further, when we shot out of the main stream into the Illinois. Here one finds a miniature Mississippi, especially at its lower extremity; while higher up, its numerous bluffs now approaching and now receding from the banks, remind one of the bolder scenery between its mouth and the Ohio. The banks, which are generally from 6 to 12 feet above low water, are frequently overflowed through a great part of their course. They descend from the edge of the river to lowland, or swamps, in their rear, evidently marking this valley as a deltal formation. The conformation of the remote or primitive banks of this river, and those of the Aux-Plaines, one of its principal tributaries, which flows within 8 miles of Lake Michigan, indicate conclusively that they formerly discharged a vastly larger body of water than they now contain. It is conjectured, and with a good deal of probability, that they were once the outlet of one or more of the large northern lakes, and possibly those of

Michigan, Huron, and Superior. If this were the case, we can conceive of no adequate cause short of the upheaval of the western shore of Lake Michigan, which should have sent the waters that formerly met the Atlantic at Cape Sable, in latitude 25° through the Gulf of St. Lawrence, that communicates with the ocean at its northern outlet in 52°.

Most of the banks of the Illinois are densely wooded; but after ascending about 100 miles above its mouth, the prairies frequently come down to the edge of the water. Peoria is beautifully situated on one of these, 200 miles from the outlet of the river, whose rolling bank, ascending inland, rises 20 feet above the water, which here expands to a tiny lake. The town of Henry, a few miles above and on the same western bank, is similarly situated, but on a higher bank, and the prairie stretches off 60 miles towards the Mississippi.

There are numerous small thriving towns along this stream, which are already the depôts for immense quantities of corn, wheat, flour, pork, beef, &c., &c. Some 15 or 20 small steamboats are employed with the traffic and passengers on this river, besides scows and flat-boats that are used in freighting the produce. Two of the latter, each capable of carrying 1,000 barrels of flour, were loading at Hennepin, some 300 miles above St. Louis. There are numerous steam-saw and flouring-mills on the banks, by which lumber and grain are largely manufactured, the latter only to any extent for exportation.

From Peru to Chicago, 100 miles, our course was over fertile and undulating prairies, most of which, though unoccupied a dozen years ago, are now under cultivation and thickly studded with tasteful villages. The canal, destined to link the waters of Lake Michigan with the Mississippi, is substantially built, 60 feet in width by 6 in depth, and will be ready for use in the course of the coming season.

The crops, owing to the long continued cold weather, were very indifferent, with the exception of grass, oats, and spring-wheat. Much of the fall-wheat had been winter-killed, and the fields were occupied by spring-grains. A large portion of these prairies afford an uncertain return of winter-grain, and the quality is much below the highest standard of good wheat. There is frequently a difference of 5 to 10 cents per bushel in the market price of wheat raised in the prairies and adjoining woodlands. This difference in value and the uncertainty of the crop, has induced many of the new settlers to resort to the wooded country further north; and I found much of the forest in Wisconsin, adjoining Lake Michigan, heretofore passed by for the sake of more easily reclaimed lands, has been purchased within a twelvemonth, and is now rapidly assuming the condition of cultivated farms. The fertile counties of Washington, Sheboygan, and Manitowoc, in the latter Territory, are fast filling up with enterprising and intelligent settlers; and lying on the lake, with thriving ports for the shipment of their products, they are soon destined to contain a dense and prosperous agricultural population.

Chicago, Milwaukee, and all the towns on the western shore of Michigan, are rapidly improving, and give substantial evidence, in their increase and improvements, of their future destiny.

The wheat-crop in southwestern Michigan looked

better than any I had before seen, but further eastward seemed much injured by the worm and fly. Other crops promised well considering the lateness of the season. The State of Michigan seems to be in a healthy, flourishing condition, and bids fair soon to rival her elder sisters in wealth and improvements.

The crops through Ohio, so far as I could learn from personal observation and reports from intelligent farmers, give promise of a medium yield. This is also true of that portion of western and middle New York, and that portion of New England through which I passed in my circuitous route to this city.

R. L. ALLEN.

New York, July 14th, 1847.

PREMIUM FARM-TRUCK.

HAVING long been of the opinion that a vehicle was much needed by the farmers of our country, to use in the place of the stone-boat or drag, and the common ox-cart, for many uses, I was at last induced to try my skill in getting up something that would meet their demand, combining strength, utility, convenience, economy, durability, and easy draft, knowing that these all are, or ought to be, matters of moment to the farmer. When I had

completed and thoroughly tested my new truck, I congratulated myself on my more than anticipated success; and after repeated trials for all the various purposes for which it was designed, such as carting small stone for underdraining, large ones for wall-fence, manure, hay from the meadow to the stack, or hay-barn, stumps, saw-logs, &c., &c., all to my perfect satisfaction, I was so much pleased with it, that I determined to take the rude thing to our County Fair, where I was awarded a liberal premium for the plan. Having since used it more than any other vehicle on the farm, and finding it indispensable, and just the article needed, and knowing no better means of making the farmers generally acquainted with it than through the medium of your paper, I have taken the liberty of sending the following description and drawings, from which you may, if you please, favor us with engravings the more clearly to illustrate it.



FIG. 72.

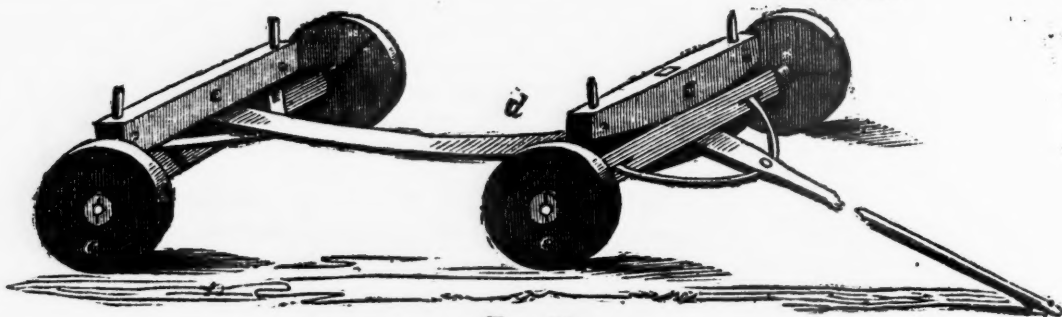


FIG. 73.

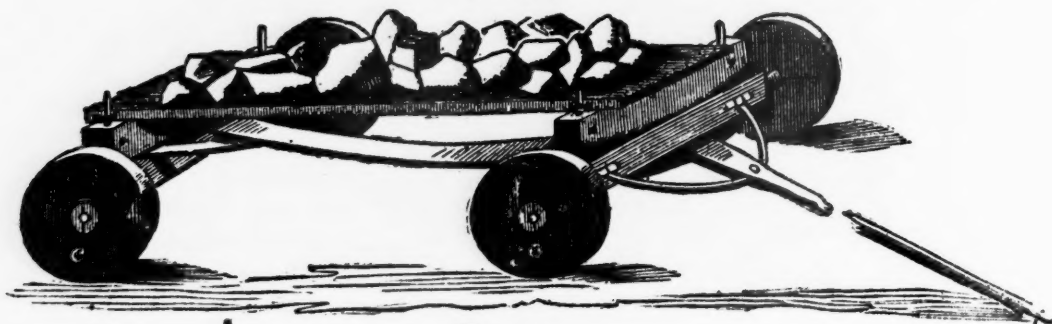


FIG. 74.

EXPLANATION OF THE ABOVE CUTS.

- | | |
|---|--------------------|
| a, Plank for wheel in two pieces with dowels. | d, Perch or reach. |
| b, Wheel perfectly put together. | e, Bolsters. |
| c, Cast-iron pipe-box to receive the arm of the axle. | f, Platform. |

For axles I used joists sawed for axles to the common lumber-wagon, sawed $3\frac{1}{2}$ by $5\frac{1}{2}$ inches, and 6 feet long, with wide steel-skane on the bottom of the arm, and an iron one on the top. The wheels, I built of 6 pieces of $1\frac{1}{2}$ inch plank, the width being the semi-diameter of the wheel, which is sixteen inches high. The bolsters are sufficiently high for the forward wheel to cramp entirely under until it strikes the reach, or perch, the front end of

which is let in the full size into the bottom of the front bolsters, being made of a 2 by 4 inch joist. The back end of the bolster, as well as the braces, which are of the same sized joists as the reach, are halved into the bolster and axle equally, and fastened by two bolts passing entirely through the bolster, each brace, and the axle, which is all the iron-work there is about the hind axle, except the skanes on the arm. The iron-work about the

front axle is a T plate about 14 inches on the bottom of the bolster, and running back about 22 inches on the bottom of the perch. A king-bolt and a strong guard receiving the king-bolt in the underside of the axle, and curving up gradually so as to allow the axle to cramp, are then attached to the perch by the back-bolt of the T plate. The irons for the tongue or pole are made the same as the ordinary way of ironing roller-poles. The wheels are built by bolting, with six bolts in each, the six pieces of plank being fitted upon the cast-iron pipe-box, which is cast in the form of a spool with projecting sand-bands, all cast in one piece.

The platform, or bottom, on which stone, manure, &c., are drawn, is composed of four strong, loose planks. The side-boards are also portable, being attached to the stakes by leather loops nailed on the outside of the board.

The entire cost of the truck is about \$20. Should I build another, I would use but two pieces of plank 4½ inches thick, for the wheels which I would dowel together and use a band-iron-tire, dispensing with the bolts, which would make the cost about the same. Farmers wishing to build after my plan, can obtain the boxes by applying to me at the Dutchess Agricultural Institute, Poughkeepsie, Dutchess County, N. Y. JOHN WILKINSON.

REVIEW OF THE MAY NUMBER OF THE AGRICULTURIST.

"THE complaint is often made, that our paper being printed at the North or East, is not adapted to the wants of the South and West," &c., is the old oft told excuse for not taking any paper, however well it may be adapted to the wants of those who make this an excuse. But such persons are not blamable, for the reason that they do not know what the paper contains. There are thousands who would become subscribers to this paper, if they could be induced to read one number. How they are to be induced is the only question. And it is an important one, since it is undoubtedly conceded that agricultural publications within a few years past have been the means of promoting a great improvement in agriculture wherever they have been read. Perhaps the best method would be, if suitable persons could be employed to travel constantly and make known by public addresses, the advantages that might be acquired if they would only read. The objection against the plan of publication would then soon give way. In fact, where you hear this objection most their local papers are least supported.

Quantity of Corn per Acre.—I wish every skeptic upon the subject of raising 100 bushels of corn to the acre, would carefully measure the ground and count the ears upon some garden patches of corn during the present summer, and they can be convinced how easy it is to raise 100 bushels of corn to the acre, upon land with the soil of garden-mould and a similar cultivation.

New York Farmers' Club.—One of the most interesting subjects mentioned at this meeting, is the silk-grass, or Florida hemp. This article has often been noticed; but yet, notwithstanding its adaptability to the manufacture of many fabrics, it is slow in coming into use. If Mr. Jones, or any other southern gentlemen who have the ability, would prepare a few tons and send it to New York

for sale, I have no doubt it would open a new branch of trade for all the South. It is said that this plant, when prepared like hemp, produces the strongest of all vegetable fibres. Several of the family of aloes afford strong fibre, and I have no doubt might be very profitably substituted for hemp. In Mexico, the *Agave americana* is extensively used for cordage. The "Spanish bayonet," and "bear-grass" (which latter I believe is a local name for the *Yucca filamentosa*), have both been strongly recommended by Gov. Call of Florida. The Spanish bayonet is said to afford a fibre quite silky in appearance. Two or three crops of the *Yucca filamentosa* can be cut in one season; and the roots are of such a saponaceous quality, that it is often made use of in washing woollens.

New York State Agricultural Society.—"We invite attention to the Premium List of this Society, published in the present number of our paper." From this am I to understand that you invite criticism upon the fitness of premiums, as well as the length of the list and magnitude of the sum total? If so, I have a word to say. Where is the fitness of the premiums on farm-buildings? Twenty dollars are offered "for the best design, accompanied with plans, elevation, and cost of construction, combining economy, convenience, and good taste," for a farm-house, I conclude. Now I only profess to possess the ability in a limited degree, to compete for this premium; and yet I should feel that I was degrading the little talent that I do possess, if I should undertake to perform the amount of labor required, for such a paltry consideration. I could give it freely; but I would not contract to labor for such a contemptible reward; particularly when my next neighbor might get half that amount for the plan of a hog-pen. And to make the thing still more contemptible, "*competitors must pay their own postage.*" It was a very narrow mind that conceived this little flipenny bit piece of economy.

The \$150 offered in premiums on cheese-dairies, should have been entitled "Reward to those who are able to own 20 cows, to enable them to exclude all of their poorer neighbors from participating in the benefits of the State Agricultural Society." Ditto of butter-dairies.

Where is the fitness of excluding boys under 16 years of age from the premiums for training three-year old steers? And still more, where is the fitness of the premiums offered to such boys as well as those younger, for training younger steers? Not one in a hundred that would compete for the first premiums will ever read them. Ditto of the third. How much more fitting a premium would it have been, to give the lad a Daguerreotype of himself and steers! How many thousands while looking at it, would be told with proud exultation, "that is a premium of the New York State Agricultural Society, which I obtained in 1847."

I have no objection to book-premiums; but there should be some fitness of the books to the taste of those who are to receive them. There is none in offering such books to plow-boys, or knitters of stockings, spinners of linen thread, or weavers of rag-carpets. The whole list seems to me to be the same old stereotype of former years. Cannot new subjects be discovered more worthy of encouragement, than who can stuff the most lard-oil into a

pig-skin, or make the biggest *bull* without being an Irishman?

The great fault of all the premiums is, they are too paltry. Look at their offers for experiments on soiling cattle, and experiments on the value of manure, "to be continued through three crops." And the whole of "\$20 is offered for the most satisfactory agricultural experiment." I might point out many of equal insignificance. I do this in no spirit of cavilling; but I certainly think the subject is worthy of inquiry whether the manner proposed is the most judicious way of expending "upwards of \$3,000 in cash." [We think our correspondent a little snappish in his comments above, but shall make no other reply than this; if the society had more funds at its command it would be more liberal.]

Preservation and Application of Manures.—One of the first things that strikes my attention in this article would be a good subject to offer a premium upon. Give a premium to every farmer, or a large premium to that town or city which would most universally adopt the method here pointed out for saving a most valuable manure, and thereby preventing a most abominable nuisance.

Culture of Peach-Trees.—The writer of this article speaks warmly upon his feelings at reading the questions of an amateur, and the practical answers given by the editor in the January No. of this volume upon a kindred subject. I only speak of this now to call the attention, as I have before, of readers and writers, to this very excellent manner of farming communications into questions, so that the editor or correspondents can give plain, short, practical answers. W. D. gives such a plain, short recipe (after a rather lengthy preface), to prevent injury from the peach-tree worm, that I extract it. Here it is. "Clear away the dirt, scrape the bark clean, dig out the 'varmint,' and cut off his head." No mistake about the value of the remedy. It is effectual, but not quite cheap enough to induce "Amateur" to re-engage in the business. The recipe of "W. D." is equally effective in the cure of the yellows. "Dig up and burn every root and branch"—no danger of contagion then. The recommendation to sow buckwheat in the peach-orchard on bearing years, I like very much; and it is new to me, although I have frequently seen it, but did not know the object. I should think, however, that wherever it was practicable to turn in hogs, that way of saving the buckwheat would be the most preferable.

Letters from the South, No. 7.—This is another exceedingly interesting letter. But I have a little fault to find with it. The writer is not careful enough to make all his statements plain and explicit. For instance, in speaking of the steamboat landing and wharves on Lake Ponchartrain, he goes right on to say, "the centre wharf which is over half a mile in length, by 5 or 600 feet wide, &c., &c., conveys an idea to those who are unacquainted with the facts, that this wharf is on the lake instead of the river. Facts mentioned in this letter confirm the opinion previously advanced in relation to the fearful subject of confining this great stream within artificial banks. While writing this article my eye rests upon a paragraph in a late paper relating a break in the levee opposite the city of New Orleans. Mr. Allen says, "it is a question which

the future only can solve, how far this artificial restraint of the waters will affect the character of the stream." With me it is not a question of futurity. It is a question that must be agitated now and boldly met. Mr. A. speaks of "Creoles" as descendants from the French, Spanish, Germans, and Americans. A very prevalent error exists in regard to the term "Creole." A great many intelligent persons suppose them to be mixed with African blood. The true meaning of the term Creole (from the Spanish word *Criollo*), is "a name given to the descendants of whites, born in Mexico, South America, and the West Indies, in whom the European blood has been unmixed with other races." I differ from Mr. A. in his opinion that "he may not longer take up the columns of the *Agriculturist* with a subject not purely agricultural." What subject can be more interesting to the readers of this paper than descriptions of an agricultural country—its rivers, roads, harbors, improvements, and commercial cities and markets for produce?

Cochin-China Fowls.—Glad to hear you say "in advance" that you cannot import any. Hope everybody else will say the same. Though they might be useful to dig up a new clearing among the roots. They are whoppers—that's a fact. Only look at their feet!

To Destroy Weeds in Gravel-Walks.—Capital recipe that. But it is well enough to remark to those who have not "the eggs to boil for breakfast," that it won't make the least difference in the world, provided that they faithfully follow the rest of the direction—the weeds shall surely die.

Ladies' Department.—Something about the kitchen. Ah! I recollect I burnt my fingers in this department not long since. I shall not do it this time.

And I dare not enter the "Boys' Department," for fear of that big dog. So I will go on and glean a little.

Foreign Agricultural News.—"Value of night-soil." If the city of Paris derives a revenue of \$200,000 per annum, how much might New York derive, if the city authorities would provide every place with the drawers and disinfecting agents spoken of in another part of this article?

Liquid Malt and Hops.—If this article could be made in this country it appears to me that it might well be, as people will drink the product, and with this extract many in the country would make a more wholesome drink than coffee, even if it was *soda-coffee*, which would be still more healthy if the coffee part was all left out.

Editor's Table.—"Crops of the United States for 1846." Here is a table that gives upwards of *nine hundred and ten millions* of bushels as the crop of oats, rice, barley, rye, wheat, and Indian corn, the product of the last year. This, to a population of twenty millions, is about forty-five bushels to each man, woman, and child, besides buckwheat, beans, peas, potatoes, and other roots. It is truly an enormous supply. Well may we feed the starving out of such a surplus. Though it will be inquired whether it is possible that we do actually raise this enormous quantity of human food, besides butter, cheese, meat, fruit, and sugar, in other enormous quantities. Let us stop and contemplate.

REVIEWER.

PRESERVATION OF THE GRAPE.

LAST winter I sent a communication on this subject to the New York Agricultural Association, which was read before that body by Dr. D. P. Gardner, and seemed to excite not a little interest. In February, I showed some grapes to Dr. G. which were perfectly sound, though ripened under very unfavorable circumstances, and which had been left on the vine until they were *frozen as hard as bullets*. Some of these grapes I kept until May, when the last of them suddenly disappeared down the throat of a friend.

As the grape-season is near at hand, a description of my method of preserving this most luscious fruit may not, perhaps, prove uninteresting to many of your readers, and will, no doubt, be appreciated by some of them at least. The process is so simple that few words are necessary to describe it, and it will be easily comprehended by all. I first take a common *unglazed* flower-pot, and place over the hole in the bottom a small clam-shell (or a piece of broken pot), with the convex side down, to drain off surplus water. I then pour in clean, white sand, to the depth of about an inch; next I select a bunch of ripe grapes, perfectly sound, and firmly attached to the peduncle. These I hold in the pot in such a position as that they do not touch its sides, and then fill it up with sand, covering the grapes about an inch and a half deep. This being done, I set the pot aside in a room of a temperature of from 40° to 50° or 60°F., and water it about once a week, or as often as it becomes dry, with a watering-pot having a finely-pierced rose attached to it.

This comprises the whole process, and I think you will admit that it is very simple. I can assure you that it answers the end proposed; at least, it has done so with me for the last six or seven years. If it were not so, I should not think of hazarding my reputation by recommending it in this public way, and over my own name. That all will succeed who attempt to preserve the grape in this manner, I do not expect; but that the great majority will, I firmly believe, because there is no reason why they should not, if they follow the directions above given. At all events, Mr. Editor, I am anxious that the process should have a fair trial; and there are few lovers of the grape who will begrudge a few bunches for the sake of making the experiment. I have succeeded in preserving the grape by other means, but the above method seems to be the most certain and economical. I will here state that finely-pulverized charcoal may be used instead of the sand with great advantage, but it is not so readily procured, and is much more expensive, though, in fact, the cost of either is comparatively insignificant compared with the important purpose to which they are to be applied.

The above process I believe to be new; it certainly is so to me. In the debates on the preservation of the grape, &c., which have taken place from time to time before the N. Y. Farmers' Club and elsewhere, no allusion, to the best of my knowledge, has been made to any method nearly resembling the above; and if any person who took part in those debates was in possession of any such process, he was assuredly under obligations to make it known.

I will just add that the pots may be larger or

smaller, and that one or more bunches may be put in each pot, according to circumstances. When the grapes are to be eaten, the sand must be washed off in clean water. I have said nothing in regard to the principles upon which the process is based, as these will be understood by the generality of readers.

PETER B. MEAD.

New York, Sept. 5, 1847.

FRUIT-MIRACLES.

IN the Horticulturist of the present month, we have a notice of a peach-tree in the garden of Mr. Willis, at Portland, Maine, that bore a crop last year of perfect peaches, and this season is covered with nectarines. Here is a greater miracle than Boston can boast of. There, the Boston nectarine was raised by Mr. Lewis, from a peach-stone. On Saturday last, Mr. Bush presented to our Horticultural Society, a large, perfect, and beautiful plum, which he assured us was raised by him from the stone of an apricot planted in a pot and carefully tended till it bore fruit. Mr. Bush is a well known and reputable gardener in our vicinity, and his integrity of character for truth will be vouched for, by all who know him. I as firmly believe this transmutation, as I do the Boston and Portland miracles. I will mention two others that came under my own observation, in the truth of which I have equal reliance, and the first far surpasses the Boston nectarine miracle, and the evidence of its truth stronger. Mr. Jones, Consul at Mexico, sent me three apricot-stones, which I cracked, and carefully planted in mould from my garden, in a small garden-pot of a triangular form, placed in a hot-bed. In a few days there came up, similarly located, three forest-trees, which I transplanted into larger pots, and in a few weeks into the open ground, where they were kept until six or eight feet high; and I was assured they were trees not known in this region. No apricot-trees appeared, and could not be expected; for it would be too much to expect, even in the land of witchcraft, to have both forest and fruit-trees from the same kind of stones.

The other miracle was at the vineyard of one of my tenants, a Mr. Amen. There was in his vineyard a grape-vine that had for many years produced abundant crops of white grapes, and a following season, the same vine bore an abundant crop of black, as well as white grapes. Mr. Amen was a man of truth, but fortunately, the fact did not, as was the case in the Boston nectarine, and my forest-tree miracles, depend on the word of a single individual. All the horticulturists for miles around saw for themselves, and vouched for the fact. Candor, however, compels me to admit, that, in this case, I examined the plant, and recollected that it was a Schuylkill muscadell (a black grape), on which, at my request, Mr. Amen had grafted a white grape, and the black fruit was produced on a shoot from the muscadell stock, which he recollected when I reminded him of it.

N. LONGWORTH.

Cincinnati, August 12th, 1847.

HOW TO PREPARE ANCHOVY-SAUCE.—Take three or four anchovies, chopped fine; butter three or four ounces; water two ounces; vinegar two table-spoonfuls; flour one table-spoonful; and stir over the fire until it thickens; then rub it through a coarse hair-sieve. May be used on meat or fish.

GRANGER'S AIR-TIGHT BRICK-OVEN COOKING-STOVE.

ECONOMY of fuel, to say nothing of that of cooking, is an important consideration with the farmer. In nearly all farm-houses of modern construction, the large old-fashioned fire-place is done away with, and a cooking-range of brick, or a stove is substituted. By means of these a great saving is effected in fire-wood, the labor of cooking is lessened, and it is done with much more ease and comfort to the inmates of the house.

Among ranges the difference is trifling; not so with cooking-stoves. In this department of mechanics, ingenuity for the past few years seems to have taxed its utmost efforts in attempts at what is termed improvements. Some of them have proved useful, but the greater part upon trial are found to be more complex and fanciful than utilitarian.

When we were at the late State Agricultural Society Show, at Saratoga, our attention was drawn to the cooking-stove of Mr. R. D. Granger, of Albany, denoted by the adjoining cut.

The improvement in this stove, which differs so materially from all others, is this. The inside of the oven, front, back, and bottom of the stove, is lined with a non-conductor of heat, similar in its operation to ordinary brick-work, which absorbs the moisture arising from the articles baking, keeping a dry oven, and giving an even, perfect, and steady heat, permitting the bread to rise gradually without first crusting it. The oven being free from moisture by absorption, the bread comes out light and sweet as from a brick oven. So perfectly does this stove resemble the brick-oven, that when once heated up, all the fire may be taken out of the stove, and bread be baked perfectly by the heat retained in the brick.

Thus the inventor has combined with a cast-iron stove a decided improvement, and one, too, that has long been sought; that is, an oven to bake equal to an old fashioned brick-oven.

There is another great advantage in the construction of this stove, viz. its direct draft from the fire *right under* the oven as well as over it; thus first applying the heat to the bottom of the oven, which causes the bread to rise, and at the same time thoroughly crusts the bottom, whereas in stoves which first carry the fire to the top of the oven before it reaches the bottom, the bread will crust on the top before it is sufficiently done through, which prevents the loaf from rising, and causes it to be heavy—the top being crusted hard, and the bottom not sufficiently baked.

Many years have been devoted in bringing this stove to its present state of perfection. A few were manufactured during the past year, and put in use, in order that any defects might be remedied; and they have given perfect satisfaction, both for wood and coal; and we commend the stove to the public with

the fullest confidence that it will perform all, and even more than is claimed.

This stove is made of various sizes, and some variation of form, and is arranged for either wood or coal. In the form of the cut it is preferable for coal. Mr. Granger has another stove embracing the same improvements, viz. direct draft and brick oven, which is more peculiarly fitted for burning

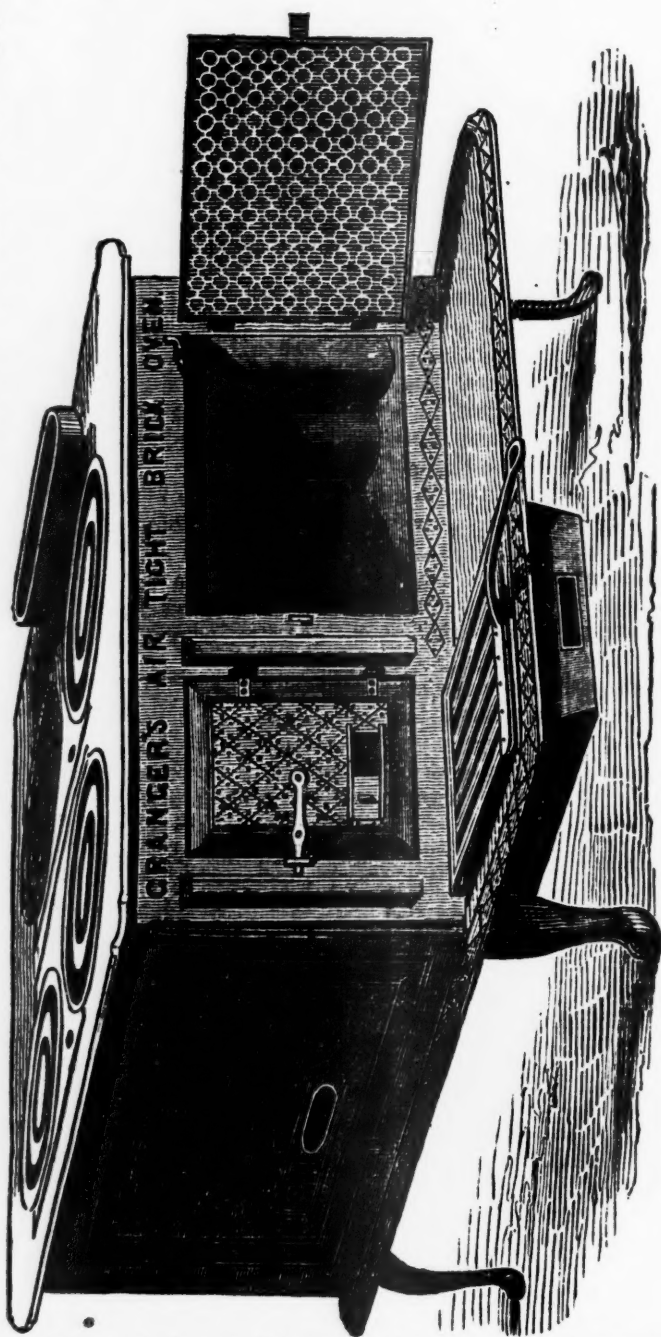


FIG. 75.

wood, though it burns coal admirably. A cut with description of that stove, called the "Iron-Witch," will be given next month.

THE POTATO DISEASE.—Curl, blister, frost-bites, ripening, flagging, sudden blight, scab, rust, mere debility, and even scalding, have been described as disease. Many of these affections, which are as old as the potato itself, occur locally every year, and are of no general importance.—*Dr. Lindley in London Gardeners' Chronicle.*

CHOICE VARIETIES OF APPLES.

SUMMER-PEARMAIN.—This variety, according to Landreth, is unquestionably the finest of its season, possessing more of the character of the pear than any ordinary apple. Its appearance is by no means prepossessing, and those who look to exteriors only would pass it by unnoticed. The color is usually dull-red, slightly streaked and spotted and occasionally of a brighter hue when grown in the sun. Coxé says it has proved to be well adapted to light lands, and correctly describes it as "singularly tender, bursting from its own weight, when falling." The outline, in most cases, is oblong and uniformly regular, with a deeply-seated calyx and stem.

LADY-APPLE.—This little apple, which is known by the French under the names of *Pomme d' Api*, *Rouge*, and *Petit Api*, from its productiveness, exquisite beauty, and fine quality, is worthy of a place in every orchard. It is highly prized, wherever quality, rather than bulk is considered, and readily finds a sale in all our markets. Its outline is flat, and its

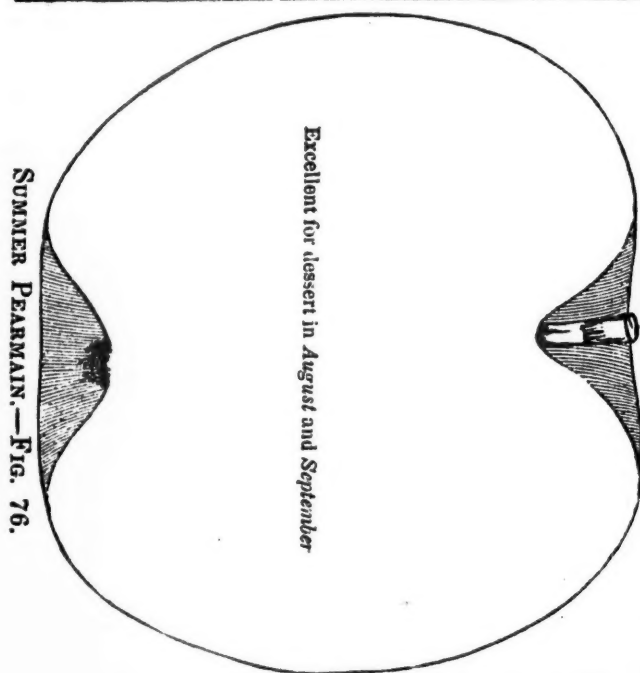
color, when ripened in the sun, is of a lively yellow, with a bright carmine cheek. The flesh is white and crisp, juicy, and agreeably sprightly.

HAGLOE.—This apple, Landreth says, "is unquestionably not the *Hagloe-Crab* of the English, a cider-apple of high repute, to which, it is believed, this has no pretension." It is said that Coxé, himself, who first described it under that name, discovered the error, and designed correcting the mistake in a future edition of his work. It is now well known in Pennsylvania and New Jersey, simply as the "*Hagloe*," and is much esteemed as an apple for cooking. Its fair size, above medium, and great beauty, recommend it for the table. Its prevailing color is yellow, streaked with red of darker or lighter shades, and, on well ripened specimens, with a delicate bloom, when grown in the sun. The outline, in general, is round, sometimes a little irregular; the stem short, with the eye deeply seated. The flesh is liable to be soft and woolly, as it is termed, which detracts from its quality for the desert.

CRANBERRY-CULTURE.

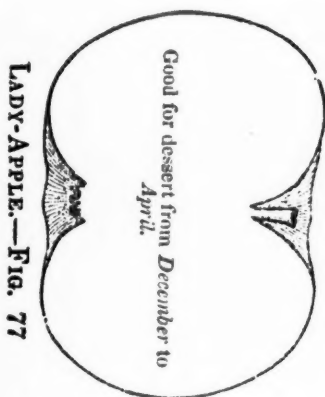
WE are not aware of a single instance of success in the cultivation of the cranberry without a thick coating of sand (not a mixture of sand and loam) was first spread over the surface. Six inches is the depth that has been recommended in this paper, and we are entirely satisfied that it is more frequently too little than too much. If the bottom be a deep mud, with only six inches of sand on the surface, the bog at the end of the year will be in a better condition to cultivate grass than cranberries. The sand will sink into the mud, and become to some extent mixed with it. The surface will be condensed and warmed by the operation, and the grasses cannot be kept out without injuring or destroying the cranberry-vines.

The art of raising the cranberry consists in selecting a soil that is always damp, and if flowed with water in the winter and spring, it is the better. The soil must be loose and barren, so that the cranberry-vines will, without any cultivation, overcome and root out the few weeds and



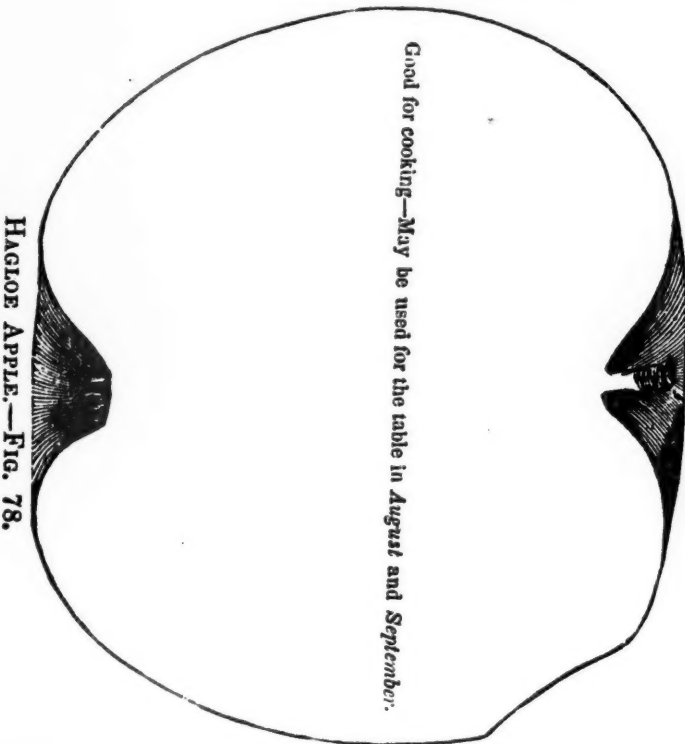
SUMMER PEARMAIN.—Fig. 76.

Excellent for dessert in August and September



LADY-APPLE.—Fig. 77

Good for dessert from December to April.



HAGLOE APPLE.—Fig. 78.

Good for cooking—May be used for the table in August and September.

grasses that may spring up. If the soil is fertile, grass and weeds will obtain possession of the soil, and they can be kept out only by incurring an expense which the crop will never repay.

We have seen accounts in the newspapers of the cranberry being cultivated successfully on the uplands, but we do not believe much of the stories that are told. On damp barren sands the cranberry, in this country, is as certain as any cultivated crop; but on other soils it is precarious and uncertain, and will not repay the labor in cultivation.—*Yarmouth (Mass.) Register*.

Can any of our correspondents inform us whether the cranberry-plant has been made to bear an abundance of fruit on lands that are not moist or overflowed with water a portion of the year?

SEVENTH ANNUAL SHOW

OF THE

New York State Agricultural Society.

THIS great show and farmers' festival came off at Saratoga, on the 14th, 15th, and 16th of September. During most of the week preceding and up to Tuesday, it rained more or less every day. This untoward weather unquestionably kept back some things which otherwise would have been exhibited, and it probably had an influence in the number of people present on the occasion. But Tuesday night the clouds were dispelled, and during Wednesday and Thursday, the principal show-days, the weather was truly magnificent.

Show-Ground.—This was admirably chosen, and comprised twenty-three acres, on the top of the rising ground just beyond the famous Congress Spring, about a quarter of a mile north of the centre of the village. The ground was fenced in with a high, tight board-fence. Inside of this a suitable space was set apart for horses and cattle all round; next to this was the carriage-drive; and next, spaces and pens for stock again; so that those passing round in carriages and on horseback could obtain an excellent view of all the animals present. We think this arrangement an improvement over that of locating the carriage-road close inside the fence, and hope it may be followed at all future shows.

Entering the show-ground, the first thing which attracted attention, was a large tent on the right, about 120 feet in breadth by 180 in length. This was the Floral Hall, and was devoted to fruits and flowers. Some 200 feet in the rear of this stood the Domestic Hall, 60 by 150 feet. The numerous pillars of this building were festooned with evergreens, which lent to its architecture a highly tasteful and rural appearance. To the left of this the Society's great tent was pitched, covering seats enough for 3,000 people. Here the annual speech was delivered and the reports of the various committees read on Thursday afternoon. Still further to the left of this was the Mechanics' Hall, 60 by 180 feet, filled with stoves, carriages, tools of various kinds, and farm-implements. In the rear of the great tent, 200 feet distance or so, was the Farmers' Hall, a commodious building, set apart for dairy-products. Aside from these, several small tents were pitched, for the accommodation of the committees, and various other purposes. With the ample grounds, and tents, and buildings, the reader

will perceive that the accommodations for the show were very commodious, and reflect great credit on the Saratoga Committee, who got them up.

Horses.—Of these there were 166 entries, most of which were very good. Tornado, bred by Robert L. Stevens, got by Eclipse, out of Polly Hopkins, and now farmed by Mr. Long, of Cambridge, took the first prize among blood-horses. He is a superb animal, and attracted much attention. Besides thorough-breds, there were several of the celebrated New York roadsters present, a stock of horses, by the way, unrivalled for general purposes. Then there was the ambitious pony-horse of the Morgan breed, together with large, strong animals bred exclusively for the farm.

Cattle.—Of these, there were 203 entries, an unusually small number for the State show. They were generally good of their kind. Several of the fat oxen were magnificent, and though only four to six years old, they would weigh from 2000 to 3000 lbs. each. Mr. Wadsworth of Geneseo showed eleven pair of fat three-year-old steers, which for size, fineness of form, and early maturity, have never been excelled. They were grade Durhams. Mr. Elon Sheldon, of Cayuga, exhibited three superb pair of working oxen; and Mr. Halsey, of Tompkins, a superior pair of fat, red cattle.

Sheep.—Of these, there were 166 entries. The Merinos and Saxons were tolerably well represented. Of South-downs and long-wools, we never saw so few. Major Reybold, of Delaware, had two specimens of his New-Oxfords on the ground. They are of the long-woolled varieties, and weighed upwards of 330 lbs. each.

Swine.—We regret to say that the show of swine was very inferior, less than 30 in all. With the exception of a few Berkshires and the improved white English hog, we saw nothing more than those of the ordinary farm kind.

Poultry.—A meagre display enough. Some pretty good Dorkings and Polands, however, together with the beautiful small China geese from the flock of Mr. Mesier, of Dutchess county.

Farm-Implements.—These were as numerous as at any show we have visited, and of a much superior kind. Indeed, this was the only department that was satisfactorily represented at Saratoga. Among the new things most worthy of notice was a hemp-breaker from Kentucky, which we thought very highly of, and a mowing-machine from Buffalo. The latter is the only one of the kind we have ever seen that we think will work well. The price is \$100. We also saw some excellent iron hurdle-fences, an account of which we shall give hereafter.

Dairy-Products.—There were about enough of these to have served up at the dinner tables at one sitting of the hotels, at Saratoga. Why there was so little butter and cheese we can hardly divine. But if the specimens were few, the quality of them was very choice—finer butter we never saw; and the cheese, especially the pine-apple specimens, deserved high praise.

Vegetables, Fruits, and Flowers.—A very good exhibition of the two latter so far as quality was concerned.

Domestic Fabrics.—Flannels, hosiery, bedspreads, yarn, &c., &c., were displayed in gay pro-

fusion, and as usual attracted much attention on the part of the fair sex.

Trial of Plows and Plowing-Match.—We have done making any record of these as at present conducted, other than to say, that whatever attention is bestowed upon them, is just so much time and money thrown away, so far as the good of the public is concerned.

The Address.—The late Hon. Silas Wright was appointed to deliver the address, but his sudden and lamented death a few weeks previous to the show prevented this. Yet with his accustomed punctuality in the fulfilment of all public duties, he had finished writing it the day before he died. His widow furnished the President of the Society with a copy, and the same was read by Mr. Dix. The ceremony of doing this was quite imposing, and came off at one o'clock, P. M. A high platform was raised underneath and at the head of the great tent on which Mr. Wright's bust was placed, by the side of which stood the eloquent reader, and around him to the right and left, were seated the officers of the Society, together with a large number of distinguished citizens of this and the neighboring States. The space below was crowded by about 4,000 spectators. The address was written with much ability, and in the strong compact style of its distinguished author. Previous to the commencement of its reading, Mr. Dix delivered a brief and touching eulogy of the lamented deceased. After the reading was finished, Mr. John A. King, of Long Island, moved a resolution, requesting the widow of Mr. Wright, to allow the Society to retain the manuscript of the address to be placed among its archives in their rooms at Albany. Following this, he spoke of our untimely loss with great eloquence and feeling, drawing tears from the eyes of nearly all present. Mr. L. F. Allen, of Black Rock, next introduced a resolution, that the Society should prepare a brief memoir of Mr. Wright, and that the same shall be printed in the next annual volume of their Transactions. To this he added some excellent remarks on the subject in question, which were received with commendation.

The awards of the several Committees, or Judges, were next read, together with their reports, when the Society adjourned to the annual meeting at Albany, in January next.

Amount of Money Received—As near as could be ascertained when we left the ground, this would amount to about \$3,700, at least \$600 short of last year's receipts, and probably \$2,300 short of what they would have been had the show been held at Troy, to which place it ought in justice to have gone. The number of spectators present were variously estimated. We think they could not have been less than 30,000.

Upon the whole, the show passed off delightfully, and has no doubt greatly conduced to the benefit of the agriculture of the State. To say nothing of the advantage to the farmers of seeing so many choice animals and products of various kinds, the bare assemblage of so many directly interested in agriculture, and the opportunity of exchanging ideas with each other on the subjects which all have so much at heart, cannot but be productive of much good. Implements and stock to the amount of several

thousands of dollars were sold during the three days of the show.

Quite a number of distinguished persons were present from our own and the neighboring States. Among these, we noticed Ex-Presidents Van Buren and Tyler, Governor Young, the Judges of our Courts, Members of the Legislature, and others too numerous to mention. Several delegates were there also from various Agricultural and Horticultural Societies.

Aside from the opportunity all had of tasting of the far-famed medicinal waters of Saratoga, there were a great variety of amusements for the people at large—such as the exhibition of General Tom Thumb, the menagerie, &c. So far as we have heard, the hotel-keepers did their duty, and all were well supplied with beds and a good table, at the regular charges fixed upon and advertised beforehand. The railroad agents did their best to forward all passengers, stock, and implements, and were highly accommodating and urbane in all their movements. We cannot but express our thanks to them, as well as the gentlemanly captains of the superb steam-boats, the Columbia and Empire, which run the night line from Troy to this city.

SHORT-HORN STOCK.—We recently saw a fine three-fourth bred heifer, only 18 months old, and exclusively grass-fed, for which her owner told us he had been offered *fifty dollars* by a butcher. We conceive this to be a fair test of the comparative value of improved and unimproved stock. How many native grass-fed cattle would bring half this price at this age? And how long will it take our farmers to understand their true interest, by engrafting the improvements of eminent breeders upon their own herds?

BEAN-HARVEST.—There is no necessity of waiting until beans are ripe enough to shell out before you harvest them.

From experience and observation we are satisfied that if you pull them when the bean gets moderately hard and the leaves become yellow, and then stack them up loosely by putting two or three stakes up so as to keep them in place, they will ripen perfectly, be full as hard, plump, and heavy, as if suffered to stand longer in the field, and perhaps get touched with the frost.

A nip of "Old Jack's" teeth is death to beans, and they had better be secured before he comes sneaking around in the night. It is not much matter how the stack is formed if it only allows them to lie lightly, so that the air can draw through them. In this position they may remain until sufficiently dry to thrash.—*Exchange Paper.*

EXTRACTS FROM THE FARMERS' CREED.—We believe in small farms and thorough cultivation.

We believe in large crops which leave the land better than they found it.

We believe in going to the bottom of things, and therefore in deep plowing.

We believe that the best fertility of the soil is the spirit of industry, enterprise, and intelligence; without this, lime, marl, plaster, bones, and green manures will be of little use.

PROFESSOR NORTON'S LETTERS.—No. 7.

AMONG the regrets which I feel in the prospect of leaving Holland in the course of a few days, none are more prominent than those which refer to the practical systems of cultivation. My chemical occupations have been so engrossing that these matters have of necessity been much neglected. I do not, however, think there is much here that it would be advantageous for us to copy; but there is much that is both instructive and curious.

I lately devoted a day to an examination of the sandy *Dunes*, or shifting sand-hills, which form so great a portion of the Dutch, Flemish, and northern French coasts. These sand-hills are in some instances several hundred feet in height, and the belt which they constitute between the cultivated land and the sea, is sometimes several miles in width. Their material is a very pure, fine, white sand, blown up from the sea-shore into this irregular series of hills. They are a defence to the coast, and those parts of it which are furnished with these bulwarks need no dykes. But while they are a defence from the sea, they at the same time cause, or formerly caused much damage on land. The winds which had brought up the particles from the shore, found them even more accessible in their new position, and raising them again into the air commenced their transportation further inland.

The march of these shifting sands was by no means slow, and a single gale often made most perceptible changes in the cultivated fields. In order to obviate this evil, a peculiar reedy plant (*Arundo arenaria*), has been sown with much care upon these hills. I believe that this is not the only kind which is employed, but it is said to be much the most common. It is one of those plants which derive sufficient sustenance even from these barren sands. In some places it seemed to have been sown regularly in drills, but for the most part it was irregularly distributed in tufts, like the bent-grass, which sometimes infests our poorly manured meadows. These tufts are upon the very summits of these barren hills, and both by their shelter and the interlacing of their roots, prevent the sand from drifting. I am told that it dies down to the ground every autumn, but that the roots sprout again in the spring, so that it is not necessary to sow it each year. I think it probable that this plant derives much of its inorganic part from the sea-breezes, which are highly charged with saline matters during strong winds and gales. Cases have been known where at such times a saline crust has been deposited upon plants many miles inland. It would be interesting to analyse the *Arundo arenaria* with a view to this inquiry.

I was greatly surprised to see potatoes planted, in many of the hollows among these sand-hills, and apparently quite flourishing. In our hot and dry climate they would be dried up in a few days, but here, where the sun is comparatively little seen, and where there is so much rain, they do much better. The crop obtained is not large, but the potatoes are of a remarkably excellent quality. They are sold at a higher price than any others under the name of *sand-potatoes*. They are of a very small size, but remarkably fine flavored and mealy. These must no doubt derive a great portion of their inor-

ganic constituents from the sea. The saline substances deposited on the hills in heavy rains, are of course washed down into the valleys, thus making them a trifle more productive than the higher situations.

Standing upon the top of one of these Dunes, the scene is one of singular desolation. As far as the eye can reach are huge rolling waves of sand, like a sea during a heavy gale, suddenly converted into sand. The land which is under cultivation inside the Dunes is also of a light, sandy character for a considerable distance, but I did not observe that any peculiar system of cultivation was pursued.

Sandy land is found at intervals as far as Utrecht; after passing this place and proceeding by railway towards Arnheim, it becomes more and more abundant, and yet poorer in quality, and at last we come upon a broad, desolate heath, or moor, which stretches away towards the north, probably nearly 200 miles, with few interruptions. As yet, little comparatively has been done towards its subjugation and cultivation; but I should think from a hasty view much might be done. Where trees have been planted, they look flourishing, and are of good size. Rye seems to be the most important crop in this section, and I presume that they follow the old system of cropping with rye until the land will not bear the seed, and then permitting it to rest for a few years. We are not accustomed to think of such a tract as this existing in one of the most densely populated parts of Europe, which has so often been the battle-field of contending armies, a very small part of the labor and treasure expended by which to destroy each other, would have converted it into a garden.

JOHN P. NORTON

Utrecht, Netherlands, June 15th, 1847.

SOUTH-WESTERN AGRICULTURE.

THE planter not blinded by prejudice or the ways of his father, will certainly receive any light that may be thrown on the subject of the cultivation of any staple article. I cannot at this day give any "new light" of my own, but I can offer the result of experience—the opinions of others, who are either unwilling to see their names in print, or are reluctant to stem the tide of popular opinion. The general impression is, that all crops should be cultivated often, the earth kept fine and light, and "no weeds or grass should be suffered to grow." Other opinions have been advanced by workmen, and facts adduced; and as an interested man, I claim of others equally interested, a right to express mine.

Two years ago, two of my friends, whom I will designate as Capt. B. and Col. D., living not over 20 miles from me, rented a field for the culture of cotton. The field was planted with cotton, divided as near as need be into equal parts, and cultivated as each one was in the habit of cultivating, to wit:—Capt. B. kept his crop clean all the year, probably working it over every ten or fifteen days, and it was cultivated like a garden. Col. D., on the contrary, did not scrape his portion out, until it was like the crop that "cousin Sally Dillard" was concerned with—"right smartly in the grass." About a month after, he killed lots and cords of grass and weeds, and never got into it, but to slay and to murder. The result—Col. D. made nearly double the

crop,—admitted by both parties, and several intelligent friends.

Again, a friend of mine, whom I will call G., almost invariably leads off in the selling time; yet he has generally grass enough to make good feed for "lean kine." He is certainly later cleaning off his crop than any of us, and has more grass to kill, murder, and smother, yet none of us on rich or poor land exceed him in the income.

Again, another friend, W., who has long since been numbered with the dead, objected strenuously to cleaning out his crop often, declaring that it always "threw it back"—stunted it.

Yet there are others who have opposite opinions. And I give the opinions of intelligent and trustworthy gentlemen, regardless whether they agree with me or not. I am not orthodox, nor do I hope there is a solitary man simple enough to follow me. My object is, to ferret out the best plan, not caring whether science or tom-foolery gives the principles. There are those who object to frequent culture, and especially to late culture, on the ground that cotton grows too long, grows too fast, and after each plowing, that it sheds a vast number of squares. They say that the plow cuts the root, which checks the growth for one, two, or three days, owing to moisture; that an increased number of roots are thrown out, and the cotton commences a rapid growth, throwing off the small fruit, blooms, and squares. Is this so, or not, brother observing planters? Again, it is said that earth can be too light for cotton; that it grows slower it is true on firm earth, but that it fruits better and casts finer forms and squares.

No one can deny but that the yield per acre is getting less and less; yet we cultivate cleaner, if not better, every year. Is this owing to the age of our land? But does not the same land produce more corn? Once more; does not land planted with oats and fed off to stock, produce more cotton for one or two years than before? Is this product owing to the vegetable matter turned in, as we have believed, or is it due in part to the consolidation of the land? No crop-bearing land keeps so firm as that of the oat-crop. These are no trivial questions, and ought to be solved by experiment.

I give a few facts here, and leave them before the intelligent and practical planter. My corn-crops have increased yearly, since 1839; my cotton-crops have dwindled from 2,400 lbs. in 1834, down to about 12 or 1500 in 1845. Up to 1840, my fields were fed off every fall and winter by stock. Since then, no stock, comparatively, have been admitted. In the fall and winter of 1845, I covered the earth in a part of my orchard with rye straw, badly threshed, with the view of protection from heavy rains, and to get rye on the land to plow in, in the following spring. The cotton was no better; the corn this year is the best on those poor places that I have had on them for ten years. My rich, low-ground field, is good for 40 to 50 bushels of corn per acre, and is as light and mellow as when I grasped it from nature; yet my cotton-crops have not in four or five years been up to one bale per acre. One of my friends has similar land, that does not make cotton, yet 50 to 70 bushels of corn have been gathered.

I know full well that cotton vegetates readier,

grows off earlier, and more rapidly, when the earth is pulverized fine; but whether it will continue so to do, is another matter. I am also informed, that some lands across the big pond require tramping to give a fair crop. Yet it does not follow that the same practice which would be best on an upland hard soil, as my east field, would be the best for my west field; therefore we need more accuracy than a mere statement of facts. We need the whole truth, and we cannot get at it without a survey and correct analyses. So far as this farm is concerned, I am satisfied no one routine will do for one year.

My west field is barely above overflow, a portion of it being overflowed yearly, though of growth indicative of rich land. When I came here, it was covered with cane some thirty feet high. The soil is dark (not black), very light and mellow. It does not bake, nor is it ever hard—and it produces corn magnificently, but, as I said above, it does not produce cotton. The coming winter I intend to admit stock on it, and endeavor to break it up early.

My east field is thin hickory-flats, with some post-oak growing on the sides of the natural drains from the upland level. This land I intend to drain with secret ditches, plow deep, turn under the leaves, pea-vines, and stalks. I will try to cultivate often, but use a surface-tool, either of the horse-hoe family, or the cultivator. I think my low ground is too loose a soil to grow cotton well, and that there is no real need for deep plowing; but to turn under out of the way, the stalk, &c., I must plow tolerably deep, and if I could get to the clay, to mix with the soil, I might do much good.

From the fact that our water is too hard to wash with, I judge we must have lime enough in the soil, and more than this, cotton and corn-stalks that will measure three or more inches, rot in the soil ere a year rolls round.

If the top of the earth be merely scraped, or stirred, so as to break the hard crust that forms on it, I do not consider there would be any disadvantage—the roots are not cut, and the tool would tend to consolidate the earth.

I have endeavored to keep my crops clean, and although I would make less thereby, I shall continue the plan; but I am not satisfied that it is the best for a large yield, being willing to admit that two or three workings, and laying by early, have in former years made more cotton. I mean, made a greater yield per acre from the same description of land, not from the same field, as the age might cause the difference.

M. W. PHILIPS.

Edwards Depôt, Miss., June 2, 1847.

TO EXTINGUISH CHIMNEYS ON FIRE.—First shut the doors and windows of the room containing the fire; stop up the flue of the chimney with a piece of wet carpet or blanket; and then throw a little water or common salt on the fire. By this means the draft of the chimney will be checked, and the burning soot will soon be extinguished for want of air. If every fire-place were provided with a damper, or shutter of tin-plate, or sheet-iron, fitting sufficiently tight to stop the draft fires in chimneys would become of little consequence, as it would only be necessary to apply this damper to put them out.

PLAN OF A SHEEP-BARN.

THE following is a description of a sheep-barn by Richard Morgan, of Aurora, Cayuga county, N. Y., as published in Morrell's American Shepherd:—

I have adopted the plan of bringing *all* of the buildings upon the farm into one compact body instead of being scattered promiscuously over the farm. You will discover that I have drawn four sheep-barns in connexion with each other, a description of one of which will answer for all. Sheep-barn No. 1 is a building *fifty* feet in length by *twenty* in width, with *fifteen-foot* posts, the first room or sheep-room to be six feet and a half in height from the bottom of the sill to the floor. A tight floor over head to keep out all dust and seed. The sheep are to be on the ground, it being better than a floor of wood. A pen three feet high, and to contain a space equal to five or six feet square, to be placed as shown by the letter P. on the ground-plan for receiving the hay when pitched from the mow that the sheep may not trample upon it, and for holding the surplus hay

that may be pitched from the mow. A rack for hay, grain, and roots, to extend entirely around the barn, excepting at the doors; one door opening into the interior yard and one into the outer yard. The outer yard, which the sheep are to go into, for their daily exercise, extends around the barns upon three sides, to be subdivided into small yards for the accommodation of each flock; to be enclosed by a fence five or six feet high, close boarded; the division fences are each to have a gate near the barn for passing with a team, as the barns are to be filled with hay from that side; yards No. 1 and 4 are thirty-five feet by fifty; Nos. 2 and 3 are thirty-five by eighty-five feet. The mow is sufficient for twelve or fourteen tons of hay each. The sheds, if built all at a time, may be divided by a fence between flocks, and the mow may be left all in one.

Each sheep-barn gives room for one hundred sheep; fifteen inches of rack for each sheep; sufficient room for all to lie down in, without being too much crowded; the room should be well *ventilated* by funnels running up through the roof, or by windows near the upper floor, with blinds, or slats. The barn I believe to be a good size for one hundred sheep, but those who are willing to add two or three feet more in width, in order to give an alley between the sides of the barn and racks, would find it convenient and profitable;—but with the size given there would not be sufficient room. I will give you a description of the barn and carriage-room attached. The barn, carriage-house, and stable, occupy thirty-five by one hundred feet; K, is a granary for oats; J, is a bay for oats in the sheaf; a cellar under both for roots, with stairs at S, to enter the cellar, to be closed by a trap-door, to be hung with hinges; I, is threshing floor; G, a bay for hay; H, is a stable for four cows or

oxen; a passage-way leads from the stable into the barn floor; a small door opens out of the stable into the yard; a small door also, from the threshing floor, with large door in front for driving in with hay and grain; the whole occupies forty-four feet of the building; F, is a covered road-way into the yard, twelve feet in width; D, is a grain room for the horses; C, is the horse-stable with five stalls, racks for hay and grain, &c.: B, is an alley, for mixing feed, enclosed tight to keep dust and dirt out of the wagon-room; O, is stairs leading into the hay-mow; A, is carriage-room, a deposit for farm-implements, &c. A tight floor covers the carriage-room and stable, leaving the room nine feet in the clear. At N, stairs lead into a room for storing wool. Let a room of sufficient size be partitioned off in the loft, and be made tight against rats, mice, and dust, lighted by a window in the end of the barn. Let there be a window or door at each end of the mow for filling the same with hay. When the sheep are to be shorn let them be housed in sheep-barn No. 1; let the wagon and tool-room

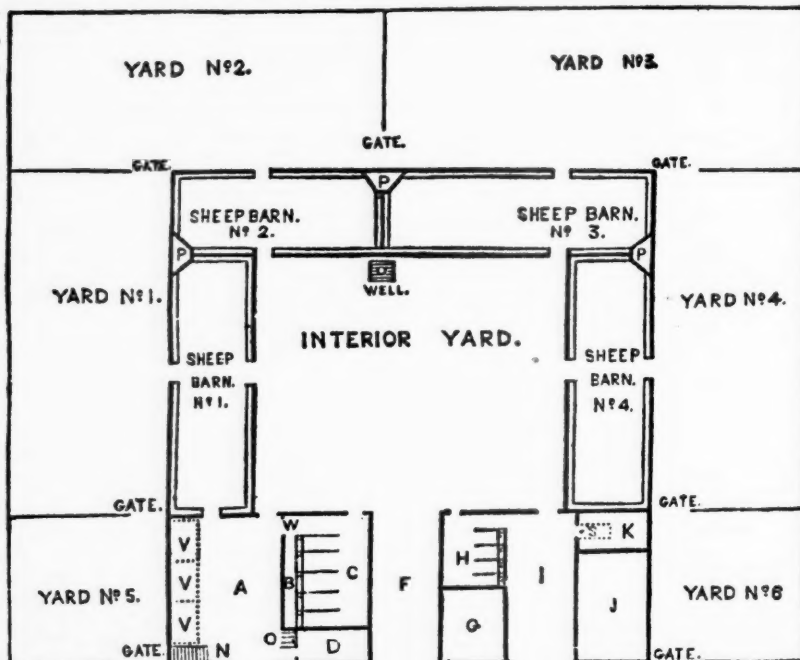


FIG. 79.

be cleared out for the purpose, and be used for a shearing room; V, V, V, are tables, or leaves made smooth, and to be hung with hinges to the side of the room near the floor, to be used for shearing upon, eight and a half feet wide; when not in use to be fastened back against the side of the room, taking up but two inches of the room; the roller to place his table in such a place near the stairs, that he may throw the fleece, when tied up, directly into the wool-loft; let there be a trap-door in the wool-loft for sacking the wool. The sheep, when fleeced, may be turned into the interior yard. If the barns cannot be supplied with water by pipes, let a well be dug as shown in the yard. Yard No. 5 would answer a good purpose for fowls, and yard No. 6 for the hog-pen, or if needed, erect a shelter, and keep the bucks safe from the other sheep, or such other purpose as may be most convenient. The interior yard is fifty by sixty feet, and may be used for young cattle. I should

have given the height of the barn and carriage-house, which is eighteen feet posts. The expense of erecting one sheep-barn would be about \$150. The expense of erecting all of the buildings would be about eight or ten hundred dollars, depending entirely upon the price of lumber, and of labor.

MODE OF RENOVATING APPLE-ORCHARDS.

I CAME in possession last spring of a bearing apple-orchard, are just such as many parts of the face of New Jersey is blessed with. It bore the unerring marks of almost total neglect. The heads of the trees were a perfect mat of moss-covered, stunted branches, with an abundance of sprouts shooting up at the base of the trees, presenting the most unsightly and slovenly appearance that it is possible to imagine. My first efforts were directed to pruning, which I did thoroughly and effectually, at least to my own satisfaction. My next object was to spade and dig away the tough, hide-bound sward for about six feet in diameter from around the body of each tree, and with saw and axe, to clear away all sprouts. With the spade, I scraped the old loose bark off the trunk of the trees, and then with a sharp-pointed knife and a piece of flexible, sharp-pointed wire, I dug out the great enemy of the apple-tree, the *borer*. I then threw around each tree nearly half a bushel of unleached wood-ashes, and afterwards dug in around them a coat of good barn-yard manure, covered about six inches thick, and secured from the drying influence of the sun, with road-washings, which, by the by, is *great stuff* for trees. This is what I have already done, and I need not say my orchard looks vastly different.

It is my intention to wash the trunks of the trees with strong soap-suds, plow up all the land, and lime it with oyster-shell lime. Then you may possibly hear from me again, and probably yet taste the effects of my plan.

W. D.

Morristown, N. J., Aug., 1847.

LONG ISLAND LANDS.—No. 1.

LONG ISLAND, which forms the southeastern portion of the State of New York, extends from Fort Hamilton, at the Narrows, to Montauk Point, a distance of about 140 miles. Its breadth, as far east as Greenport, a distance of about one hundred miles, varies from 12 to 20 miles, beyond which it is much less. The whole island embraces an area of 960,000 acres, or 1,500 square miles.

A ridge, or chain of hills, commonly known as the "Green-Mountains," or "Back-bone" of the island, commences at New Utrecht, in the county of King's, and extends with occasional interruptions and depressions, to Oyster-Pond Point, in the county of Suffolk. A branch of this ridge diverges from Smithtown, and continues along the south branch of the island to Montauk Point. Some of these hills, which are usually of a round-backed form, without any approximation to regularity, often present, within a short distance, elevations and depressions of one hundred feet, and in some instances approach an elevation of three or four hundred feet above the level of the sea. Among these hills there frequently occur bowl-shaped hollows, in which water collects, and for the want of a ready outlet, is form-

ed into marshes, "pond-holes," or small crystalline lakes.

The surface of the island north of the dividing ridge is generally rough and broken, with the exception of the necks and points of land which stretch into the Sound. These, for the most part, are level or undulating in their surface, and comprise some of the best farms the island affords. Southward of the back-bone, or ridge, the surface is even, and slopes almost insensibly to the eye from the hills to the ocean. On both sides of the island are numerous streams, fed from springs emerging from the higher hills, which, after subserving the purposes of irrigating the soil, or turning mills, discharge themselves into the bays or Sound.

Along the south side of the island is an inland bay, about 70 miles in length and from two to five miles wide, in and adjoining which are extensive tracts of salt-marsh and islands of meadow, that annually produce immense crops of grass. The beach that separates this bay from the ocean is composed almost entirely of sand, which in some places is drifted into hillocks of fantastic shapes, while in others it is low, flat, and scarcely rising above the level of the tide. This beach, at some points, is nearly half a mile in width; and, like almost the entire south shore of Long Island, produces but little vegetation except here and there a few straggling cedars, or a clump of beach-plums (*Prunus maritima*), to diversify the scene.

The northern part of the island, including the dividing ridge, is well supplied with thrifty and growing wood, identical with that of the adjacent forests on the main-land; but in travelling from Jamaica to Farmingdale, on the railroad, we pass through a vast tract of land, estimated to contain 17,000 acres, commonly known by the name of "Hempstead Plains," which, save now and then a cultivated spot, presents neither shrub nor tree, with the exception of a few scrub-oaks, three or four feet high, and occasionally a patch of stagger-bush, or kill-calf (*Andromeda mariana*), to relieve the eye. The latter is so called, from a popular notion that it produces in lambs and calves which feed upon it, in the spring or early summer, the disease called the *staggers*; but its injurious qualities are doubted by many, and even those who believe in its poisonous effects in the spring, admit that it may be eaten with impunity later in the season.

These plains, or prairies, it would seem, have remained in a similar condition as at present beyond the memory of man, and have ever attracted attention as a great natural curiosity from the first discovery of the country. From an exceedingly rare work, published in 1670, entitled "A Brief Description of New York, formerly called New Netherlands, with the places thereunto adjoining," by Daniel Denton, we extract the following:—

"Towards the middle of Long-Island, lyeth a plain sixteen miles long and four broad, upon which plain grows very fine grass, that makes exceeding good Hay, and is very good pasture for sheep or other Cattel; where you shall find neither stick nor stone to hinder the Horse heels, or endanger them in their Races, and once a year the best Horses in the Island are brought hither to try their swiftness; and the swiftest rewarded with a silver Cup, two being Annually procured for that purpose. There

are two or three other small plains of about a mile square, which are no small benefit to those Towns which enjoy them." The grass above referred to, was doubtless the forked beard-grass (*Andropogon furcatus*), also sometimes called Indian grass, which is common in many parts of the United States, particularly where the soil is sandy, and is sparingly produced on these plains at the present day. We have seen specimens of it growing there of a height of four or five feet, and have been informed, that, in its green, succulent state, it is eagerly sought after by cattle, and affords a nourishing bite. From the circumstance that it will grow upon the poorer class of soils, and being a tender, juicy plant, of a rapid growth, its culture is worthy of a trial for soiling cows.

The Rev. A. Burnaby, who travelled through the Middle Colonies in 1759, describes these prairies as "between twenty and thirty miles long, and four or five broad;" and says there was not a tree then growing upon them, "and it is asserted," says he, "that there never were any."

In progressing eastward from these plains to near the head of Peconic Bay, a vast tract of land is passed through, principally overgrown with bear or scrub-oak (*Quercus ilicifolia*), dwarf chestnut-oak (*Quercus prinus chinquapin*), and black or pitch-pine (*Pinus rigida*). The former abounds in the Middle and Northern States, and is usually found in particular districts where the soil is very thin, growing in compact masses, which are traversed with difficulty, though no higher than the waist. It does not ordinarily exceed a height of three or four feet; but in favorable situations, where the soil is more deep and fertile, it frequently attains double these dimensions. It is seldom found insulated, or mingled with other trees or shrubs in a dense forest; but generally in tracts of many hundred acres in extent, which it covers almost exclusively, its uniformity being broken only by a few specimens of low whortle-berries, dwarf chestnut-oaks, and scrubby pitch-pines. Its presence, heretofore, has been considered as a sure indication of a barren soil, composed of dry sand commingled with gravel, and incapable of profitable culture. More recent observations and experiments, however, have proved this to be incorrect, as some of the best lands the island affords, in the towns of Southold and River-Head, produce this shrub of a larger growth, and even in places where it grows no more than two or three feet high, crops have been raised with a remunerating profit.

In our next number we propose to give an account of the geology of the island, with some observations on the formation and chemical nature of its soils.

COST OF LIGHT.

Your quaint and amusing friend Reviewer expresses a wish, that somebody would give you a table, showing the most economical light at given prices of tallow, lard, oil, and other substances. I have collected a few facts, and submit them as an approach to the desired information.

Having some knowledge of the mechanical or carcel-lamp much used in the city of New York,

* See Notes to Gowans' edition of Denton, by Furman.

and the well known Argand lamp, they are adapted as the basis of comparison. Assuming the mean intensity of light for seven hours emitted by the mechanical lamp as 100—the ratio by the Argand is 85; as, however, the light of the mechanical lamp, though intense, is fluctuating and flickering, we will fall back on the Argand and take it as our standard, say 100—then by experiment, the following table has been constructed.

	No. to a Pound.	Duration of a Candle.	Weight in Grains.	Grains consumed per hour.	Proportion of Light.	Candles equal to one Argand.
Mould candles . . .	105	5 h. 9 min.	682	132	12½	5.7
Dipped candles . .	104	" 36 "	672	150	13	5.25
Mould do	86	" 31 "	856	132	10½	6.6
do do	67	" 2½ "	1160	163	14½	5.0
do do	49	" 36 "	1707	186	20½	3.5
Argand oil-flame.				512	69	

From the foregoing table it will be seen that five mould candles of six to the pound are equivalent to the light of an Argand lamp; but a good Argand lamp consumes per hour, in oil, about one-seventh the weight of tallow in candles of six to the pound; hence it appears that about two pounds of oil are equivalent to three pounds of tallow candles, the cost of each depending on the market of the day, which every inquirer can readily ascertain.

Though a youngster, I take pleasure in such researches, and if Reviewer wishes for the comparison between tallow, stearine, wax, &c., I can readily produce them. C. D.

MANAGEMENT OF HONEY-BEES.—NO. 13.

THAT way of managing old stocks, which produces the greatest number of swarms, must in the end be the most profitable.

Now, by *supering*, in Mr. Allen's plan, we get but one good swarm at the end of the season, even allowing his plan to operate well. So also we get but one swarm on the principle of *driving* from the old to a new hive, as it is generally done, or I may say *always* done. My mode produces *two* good swarms from the old stock the *first* season; or rather one prime swarm and the old stock itself regenerated by being divested of half its old comb, which enables the bees to prosper for a few years, nearly as well as natural swarms.

I manage thus. As soon as the drones show themselves in *any* one of my hives, I prepare a clean, empty hive with a piece of comb containing the young bees, to form an *artificial* swarm as before described. If the old stock is well filled with bees, or as full as may be expected during the early part of the swarming season, on a pleasant morning I invert the old hive upon a table or bench, and quickly place the new hive, with the piece of comb attached upon it. I then wind a cloth around the junction of the two hives to exclude the light, and with a small rod, I rap the sides of the old hive about ten or fifteen minutes, at which time I suppose that half the bees are driven up into the new hive. This is just what I want. I then remove the new hive to the location of the old one, which

at once gathers all the straggling bees. The old hive is now half depopulated, and the combs are quite bare at the ends near the mouth of the hive. I then cut out about half of the comb, and lay it around in some convenient place for the bees to depast at leisure. This operation must be done with a dexterous hand, and with such implements as I shall hereafter describe. The bees must not be injured by getting that part of the comb left out of their natural position, nor must the work be done so slow as to allow much drainage of honey among them. The combs should be cut *horizontally* about half way to the top of the hive. This allows enough comb for the bees to work upon, and at the same time they will be able to defend themselves against moths, when they could not if all the combs had been allowed to remain.

The old hive should now be placed in a new position near the spot where the operation has been performed. If it should be found on the following day, or at any time within *three* days, that either of the hives has a large majority of the bees, the hive may be *transposed*, that is, place the old one in the new one's place and *vice versa*. Do not disturb them after the third day, because the bees will commence fighting as soon as they become firmly attached to their respective domicils. I can generally manage to get them equally divided. If the *queen* is driven out into the new hive, many more will go there than would if she remained in the old one. In this way we get two good stocks for the next year that will thrive well.

T. B. MINER.

Ravenswood, L. I., October, 1847.

FORMATION OF A POULTRY-YARD.

As soon as it is determined to have a poultry-yard, and the breed or breeds have been determined on, for some of them should be sitters, and others should supply the nests and the table with eggs, great care should be taken in the selection of the fowls; for on their healthiness, or freedom from disease, success will chiefly depend. The signs of health are as evident and as certain in the feathered tribes as in the quadrupeds. The glossiness and smoothness of the feathers, the brightness of the eye, the cleanness of the nostrils, the florid redness of the comb, the soundness of the legs, and the shortness of the claws, will be sufficient pledges of health. The male should be large of his kind, and bold and active; the hens should be gentle and tame; and, as sitters, by no means above the middle size; a small comb on the hen may be pardoned, but should not be chosen. A large comb is a frequent pledge of her unquietness, and rarely belongs to a good sitter or careful nurse. They should be of a middle age, from eighteen months to two years. Before that period, the eggs will not have attained their full size, and the young broods will be proportionably small. The first inhabitants of the fowl-yard, and which will give it to its future character, should not be bought from a stranger; but there should be a certainty that the hens are good and early layers, and that they begin to lay again as soon as their brood is disposed of.

Where a considerable number of fowls are kept, a poultry-house, however small and simple it may be, should be devoted exclusively to their use. In a farm-establishment, it is particularly necessary,

otherwise the owner will materially suffer. They will wander away, and be liable to be killed by foxes, hawks, &c., and the eggs will be laid in all kinds of places. This building, although well ventilated, should be warm and comfortable. Few animals suffer more from cold than our domestic fowls. The roosting-places should be easy of access to the poultry, but sufficiently high to be out of the reach of vermin, and they should consist of one or more level ranges. The boxes for laying and sitting, should be convenient and warm, apart from each other, and sufficiently numerous. If there be sufficient space, a yard-house should be fenced in, communicating with the poultry-house, and in which the whole stock may be occasionally confined. If it contain a stream or a pond of water, that would be a considerable advantage. At all events, if the poultry wander about the yard, or other parts of the premises, their roosting, laying, and sitting-place should be comfortable, closed at night, and there they should always be fed.

The poultry-yard should be dry. It should be sheltered from the northerly winds; oyster-shell lime, gravel, and bricklayer's rubbish, should be strewn in different parts of it, in which they may roll themselves at their pleasure. This is more conducive to the health of the fowls than is generally imagined, not only cleaning the feathers, but getting rid of eruptions and vermin, and favoring that most important of all functions—cutaneous perspiration.

ZACH.

BAGGING AND BALE-ROPE.

THE manufacture of cotton-bagging and bale-rope in the West having increased to an over supply, causing a reduction in price below its actual cost, it was sold as low as 7½ to 8 cents for bagging, and 3 cents for rope. Up to 1845, nearly the whole crop of hemp had been used for cotton-bagging and bale-rope; there being but little foreign demand, the price per ton for dew-rotted hemp fell to fifty dollars per ton. At this price the farmers declined growing it to any considerable extent. The quantity of land sown in 1846, was quite limited, and but a very small quantity of hemp-seed was saved of the growth of that year.

In the winter of 1847, the demand for Western dew-rotted hemp in the Eastern seaports, caused the price to go up from fifty dollars to double that sum, a price (ninety to one hundred dollars per ton) quite satisfactory to the farmers. They were then anxious to sow a full crop, but the seed was not to be had at even three dollars per bushel—so there being a short crop of 1846, the same, from the scarcity of seed, will be the case in 1847—producing not more than will be required for the bagging manufactories, leaving none for export. Indeed, the bagging factories are now importing dew-rotted hemp from St. Louis.

The farmers of the West will secure an abundance of seed of the growth of 1847, and will no doubt put in a much larger crop next spring than has ever been sown. It is an easy matter for the farmers of the West to produce as much hemp as the U. S. Navy consumes, and for all the commerce of the U. States merchant-service, if the price does not fall below ninety dollars per ton for dew-rotted hemp.

KENTUCKY

Ladies' Department.

DRESSING A SALAD.

Two large potatoes, passed through kitchen sieve,
Smoothness and softness to the salad give;
Of mordant mustard add a single spoon,
Distrust the condiment that bites too soon;
But deem it not, thou man of herbs, a fault,
To add a double quantity of salt;
Four times the spoon with oil of Lucca crown,
And twice with vinegar procured from town;
True flavor needs it, and your poet begs
The pounded yellow of two well-boiled eggs;
Let onions' atoms lurk within the bowl,
And, scarce suspected, animate the whole.
And, lastly, in the flavored compound toss
A magic spoonful of Anchovy sauce.
Oh, great and glorious! Oh, herbaceous treat!
'Twould tempt a dying anchorite to eat;
Back to the world he'd turn his weary soul,
And plunge his fingers in the salad bowl.

Rev. Sidney Smith.

SMOKE-HOUSES.

THE Westphalia method of smoking hams, noticed in the 5th vol. of the *Agriculturist*, p. 346, cannot be too strongly recommended to every person who cures his own bacon; and I have observed with great satisfaction, during a recent visit to the Keystone-State, that it is not very uncommon in Pennsylvania. In several farm-houses I saw that the smoke-house was a room in the garret through which the flue of the kitchen-chimney passed, which was neither ceiled nor plastered, but carefully white-washed every fall, before the meat of the winter's killing was ready to be put into it. There was no outlet but the door, and a small trap-door in the roof, which was crossed by rafters, into which hooks were driven for the meat to hang upon. None was suffered to hang against the wall, as that side would receive no smoke, and become damp and sodden. The smoke, which is almost cold when it reaches so high, was admitted through a hole in the chimney a foot or eighteen inches from the floor, and passed freely through the cracks in the roof, where the house was low, as in two or three instances, the danger from fire was guarded against by ceiling the room, and leaving small loop-holes for the escape of the smoke.

The only disadvantage, if it be one, in this way of smoking meat, is, that it requires nearly double the length of time to cure it that it does in the common way. Frequently, however, it is left in this room until it was wanted for use, or is taken down only during the hottest part of the summer, where the roof is not shaded, and there is danger of its being over-heated. The flies do not trouble it while the room is kept perfectly dark, and more or less filled with smoke, as it must be daily from the kitchen-fire. Our Maryland smoke-houses, though built on a very different plan, produce the same effect, and I believe none will dispute the fact that Maryland, and her sister Virginia, produce hams superior to those cured in any other State in the Union; and when two years old they are thought by epicures to equal the Westphalian. Some attribute this to the custom of allowing the hogs to run in the woods until late in the fall, where, by feeding on acorns, nuts, and roots, the flesh acquires the peculiar flavor of wild meat; but compare a real Maryland or Virginia ham with those from any other State where the same liberty is given to the hogs, and the difference will be ac-

knowledgeed to be in the manner of curing and smoking the meat—not in the treatment of the animals.

Our smoke-houses are generally built of logs, rudely plastered outside with clay, and thatched with straw. The hams are hung upon hooks driven into the rafters. The fire of chips, which is covered with saw-dust to prevent a blaze from rising, is made in the middle of the floor, and the smoke, after having done its duty, is permitted to escape freely through the innumerable cracks and openings in the walls and thatch.

E. S.

Eutawah.

FEMALE EDUCATION.—It was a judicious resolution of a father, as well as a most pleasing compliment to his wife, when, on being asked what he intended to do with his girls, he replied; "I intend to apprentice them all to their excellent mother, that they may learn the art of improving time, and be fitted to become, like her, wives, mothers, heads of families, and useful members of society." Equally just, but bitterly painful, was the remark of the unhappy husband of a vain, thoughtless, dressy slattern: "It is hard to say it, but if my girls are to have any chance of growing up good for anything, they must be sent out of the way of their mother's example."

PEACH-PICKLES.—Take one gallon of good vinegar and add to it four pounds brown sugar; boil this for a few minutes and skim off any skum that may rise; then take clingstone peaches that are fully ripe, rub them with a flannel cloth to remove the down upon them, and stick three or four cloves in each; put them into a glass or earthen vessel, and pour the liquor upon them boiling hot. Cover them up and let them stand in a cool place for a week or ten days, then pour off the liquor and boil it as before; after which, return it boiling to the peaches, which should be carefully covered up and stored away for future use.

HOW TO PREPARE SUPERIOR MINCE-MEAT FOR PIES.—Take stoned raisins, currants, sugar, and suet, of each 2 lbs.; Sultana raisins, boiled beef (lean and tender), of each 1 lb.; sour or tart apples 4 lbs.; the juice of two lemons; the rind of one lemon chopped very fine; mixed spice $\frac{1}{4}$ lb.; candied citron and lemon-peel, of each, 2 oz.; brandy one gill; and chop the whole very fine. The preparation may be varied by adding other spice or flavoring, and the addition of eggs, or the substitution of chopped fowl or veal, for beef, according to fancy or convenience.

FACTS USEFUL TO BE KNOWN.—Water, when hot, dissolves more salt, sugar, &c., than when it is cold. Hence the utility of pouring hot salt and water over articles to prepare them for pickling; and hot syrup upon preserved fruits; for the salt or sugar that would crystalize as the liquid cooled, is taken up by the fruit, &c., which by being heated also, absorbs more than it could be made to do if it were put on cold.

HORSE-RADISH may be kept during winter, by grating it while green, and corking it up in bottles filled with strong vinegar, set in a cool place.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer *Britannia*, we are in receipt of our foreign journals to the 4th of September.

MARKETS.—*Ashes* a considerable advance. *Cotton* had receded from $\frac{1}{2}$ d. to $\frac{1}{4}$ d. per lb., and was dull of sale. *Flour and Grain*, another serious decline. *Provisions* in moderate request. *Naval Stores* in good demand. *Rice* the same. *Tobacco* firm. *Wool* an advance of 1d. to 2d. per lb.

Money still continues in great demand at 5 to 7 per cent. Numerous failures had taken place, particularly among the grain and provision merchants. These have had the effect of exciting great distrust, and have cast a general gloom over all business transactions.

The Crops have proved very abundant on the Continent, and have been uncommonly well secured. In Great Britain and Ireland they are a full average. The potato-rot has manifested itself in some instances, though not to an alarming extent. Should it prove as virulent as last year, its effects would not be near so disastrous to the people, as they have cultivated other roots to a considerable extent this season, together with several varieties of grain, making them in a great measure independent of the precarious potato-crop, which has formed for a long time, almost exclusively, the sustenance of the bulk of the Irish people.

Disease in the Wild Potato.—It is a curious fact that, the wild Mexican potato, carried from Mexico last spring by Mr. Uhde, and planted in the garden of the London Horticultural Society, was the only kind there that appeared to be much damaged by the prevailing disease.

Application of Ether in Taking Bees.—Several successful experiments are said to have recently been made in France on the etherization of bees, so as to be able to take their honey while they remain in a state of inaction, without the necessity of destroying their lives.

Forage of the Canadian Army.—The daily ration for each horse of the cavalry and artillery consists of 10 lbs. of oats (or when required, 14 lbs. of bran in lieu), weighing at least 36 lbs. per bushel; 12 lbs. of the best Timothy hay; and 8 lbs. of straw of the best quality, the whole required to be perfectly free from weeds or dust.

For other troops, staff, and departments, the daily ration of each horse is 9 lbs. of oats, 16 lbs. of Timothy, and 6 lbs. of straw.

Salt as a Manure.—Common salt may advantageously be employed as a manure directly to the soil, or it may be mixed with the dung-heap. In the latter application of it, it must be borne in mind that in large quantities it is capable of suspending fermentation altogether, so that if the farmer wants his dung to heat well he must be careful in the use of salt; but in small quantity during the fermentation, or in full supply to the manure a short time before its application to the land, salt is likely to be of great service. Not only does it render the ammoniacal compounds less volatile, but it is capable of destroying the germs of both vegetable and animal life, for there is little doubt that we too often introduce into the soil with the manure the weeds which choke, and the insects which devour, our crops. Salt will prevent all seeds from germinating when they are sufficiently saturated with a solution of it. No fear, however, need be entertained of its effect when the manure has been properly mixed with the soil; it is then too diluted to interfere with the germination of seed.—*English Paper.*

Spanish Stock.—So far as I could judge, and from what I saw, judgment seems more wanting in the cultivation of the soil than in the rearing of animals. The breed of horses is deserving of very high commendation. Sheep, pigs, and cattle are much like what Goldsmith, in his "Animated Nature," describes as common to such countries. For my own part, I think

no kind of sheep, generally speaking, could be better adapted for the migratory life these animals lead; and when we consider they generally are the property of the Spanish aristocracy, no wonder that something like taste should pervade the flocks. The pigs are generally, in color and figure, more like those of Hampshire and Berkshire than any I know, but fully more handsome, and from the manner in which they are fed, often on Indian corn, better ham cannot be; even the wild boar, of which they may hold a cross, cannot excel them. The cattle are most admirably adapted for the draught, being clean made up (as a dealer would say), healthy looking animals, many of their points much in keeping with the Devons; the horns, however, more like the buffalo. Those which are slaughtered are, however, thin and ill fed, and require all the oil and garlic to fit them for the Spanish palate. With five or six months feeding on such pastures as in the land of Erin, they would make very nice beef, and, with a little additional feeding, say of ten or twelve sacks of turnips, and a few pounds of Indian corn, would excel the roast beef of old England; yes, beyond a doubt.—*Monthly Far. Jour.*

Egyptian Commerce.—According to the Alexandria Custom-house annual report, it appears that during the year 1846 the total value of exports was 1,900,000*l.* sterling; and of imports, 1,750,000*l.* sterling. Both of imports and exports England has had by far the greatest share. There were exported from Egypt to England, besides other minor articles, 200,000 quarters of beans, of the value of 118,800*l.*; 41,000 of wheat, 45,918*l.*; 6,000 of Indian corn, 3,800*l.*; 13,330 of lentils, 12,864*l.*; 28,720 of barley, 18,880*l.*; 2,000 of sesame-seed, 4,382*l.*; 1,700 of linseed, 9,000*l.*; 4,000 tons of cotton, 178,700*l.*; 3,000 of flax, 64,750*l.*; 295 of gum-arabic, 17,360*l.*; 45 of senna, 1,980*l.*; 225 cwt. of henna, 1500*l.* The imports from Great Britain include the following articles:—Cotton manufactures, 323,460*l.*, coals, 40,000 tons, besides the quantity imported for the use of the East India Company, and the Peninsular and Oriental Company; cochineal, 11,520*l.*; indigo, 20,000*l.*; hardware, 13,800*l.*; earthenware, 6,670*l.*; tin-plates, 4,360*l.*; sugar, 6,000*l.*; wines and spirits, 9,000*l.* sterling. The total exports to the United Kingdom amounted to 651,000*l.*; and the imports to 615,000*l.* During 1846, 1,218 vessels of all nations entered the port of Alexandria, and 1,225 left it. Of these 251 were English entering and 220 leaving it.—*Agricultural Gazette.*

Saving Grain in Damp Weather by Straw.—A field of white oats, near Plymouth, was cut wet, and the weather continuing the same, was at last stacked in layers, with dry straw between. Where no dry straw is to be had, it may be dried in sheaf; either by a simple kiln, or without risk of fire, by lime, as follows:—If the rick be made hollow, with the grain turned inward, a sufficient quantity of fresh quicklime placed within, and then all closed in from bottom to top, and covered over to exclude the external air; the lime will rapidly dry the air within, which will as rapidly draw moisture from the grain; and so continue until the grain is dry, or the lime fully slaked. And as quicklime will absorb about one-third its weight of water, a ton of lime will take between 6 and 7 cwt. of water, and thus probably dry 6 or 7 tons of grain and straw; for all this water must come from the grain, if the air is well excluded, and the lime raised from the soil by a bed of stones, gravel, or straw. The lime must not, of course, touch the grain; and therefore room should be left for it to swell in slaking and for turning it over to slake all through; and a sort of door-way must be left on the side of the rick, which can be opened for putting in the lime, and for turning it over; but must be closed up immediately, and kept close, except at those moments.—*Farmer's Herald.*

Editor's Table.

FAIR OF THE AMERICAN INSTITUTE.—The Twentieth Annual Fair of the American Institute will be opened to the public at Castle Garden, N. Y., on Tuesday, the 5th of October, at 9 o'clock, A. M.

Plowing and Spading Matches, and testing of Plows will take place at Hempstead, L. I., on Friday, the 8th.

Exhibition of Pure-Blood and other Cattle, Horses, Sheep, Swine, &c., will be held at the corner of 23d St. and 5th Avenue, rear of the Madison Cottage, on Wednesday and Thursday, the 13th and 14th.

All entries of stock must be made in writing and delivered to the Clerk at the time of entry at the Committee-Room, on Monday the 11th of October, with full pedigrees of the animals, their breed, ages, owners' names, &c., and with such observations as to their food, thrift, constitution, milking or fattening qualities, as they may deem proper. Application may also be made by mail or otherwise, to T. B. Wakeman, Corresponding Secretary of the Institute.

All animals must be upon the ground by 9 o'clock, A. M., on Wednesday, the 13th, attended by their owners or keepers for the inspection of the Examining Committee.

SHOW OF THE QUEEN'S CO. AGRICULTURAL SOCIETY.—The exhibition of this Society will be held at Hempstead, L. I., on the 8th of the present month; and the *Plowing Match* of the American Institute will also be held at the same time and place.

HORTICULTURAL SHOW OF THE AMERICAN AGRICULTURAL ASSOCIATION.—The third exhibition of the Am. Ag. Association took place at the Lyceum Building on the 8th of September, and continued two days. It surpassed any previous show held by this Society, and was perhaps one of the finest displays of the kind ever got up in this city. We shall not attempt at present to give a full account of all the articles exhibited, but merely a brief sketch of such specimens of fruits, flowers, and vegetables, as seem to us to be more particularly worthy of notice. The centre of the room was occupied by a long table, containing principally the fruit; and on the sides and end were disposed the flowers and vegetables. Among these we noticed a large and magnificent display of superb dahlias, by Messrs. Dunlap & Thompson, and Mr. Geo. C. Thorburn; also, a box of very fine seedling dahlias, from Philadelphia; a lot of very choice and beautiful roses from Mr. Moore; another fine collection from Messrs. Ball & Hauser, among which were some good seedlings, and still another from Mr. Mantell. At the end of the room was a table containing some splendid bouquets and baskets of flowers from Dunlap & Thompson, Isaac Buchanan, Mr. Mantell, Mrs. Jones, E. Holbrook, and others. We also observed from Mr. Holbrook, some superb green-house plants, a fine lot of roses in pots, and other rare and beautiful pot-plants, in different parts of the room.

We will now take a glance at the fruits, which formed the most important part of the exhibition. To notice these in detail would take up more space than we can at present spare, and we must therefore content ourselves with a very general description. Of foreign grapes, there was a rich display of many choice varieties, grown under glass and in the open air, with and without artificial heat. Some of the bunches were surprisingly large, and looked so luscious that we could not help regretting that we were not permitted to taste them; in short, the grapes were unequalled by anything else in the room. There were a few native grapes, which looked very fair, although it was too early to have them in perfection. There was a very fine and large display of that most delicious fruit, the peach, among which we noticed some very good seedlings. Some of the specimens were exceedingly large, and

among the collections were some of our choicest varieties. Then there were nectarines, plums, apples, pears, preserved gooseberries, musk and water-melons, &c., &c. Among the contributors of vegetables and fruits, we noticed the names of Roswell L. Colt, Samuel T. Jones, R. L. Pell, R. K. Delafield, Isaac Buchanan, E. Holbrook, Mr. Rankin, and others.

Of vegetables there was a very good display, consisting of fine specimens, of beets, carrots, parsnips, pumpkins, squashes, egg-plants, celery, okra, Jerusalem artichokes, &c., &c.

IRELAND'S WELCOME TO THE STRANGER; or an Excursion through Ireland, in 1844-5; for the purpose of personally investigating the condition of the Poor. By A. Nicholson. New York: Baker and Scribner. 1 vol. 12mo. pp. 456. This volume is a narrative of facts concerning the physical and moral condition of the poor of Ireland, which came under the personal observation of the authoress, who visited many of the wildest portions of that country at great toil and privation, journeying on foot, and finding her rest and scanty, though welcome food, in the miserable huts of the poorest class of people. The style of the volume is simple and graphic, and well calculated to effect its object, the awakening of the public sympathies in behalf of the destitute and starving Irish. There are many incidents related of deep and thrilling interest; and many delightful specimens afforded of the irresistible wit of that free and simple-hearted people. We commend the volume to the attention of every friend of humanity. The kind-hearted writer deserves to be ranked with the philanthropic Howard, and the benevolent Mrs. Fry, whose generous and self-denying labors in behalf of the poor she has so well emulated. The work is well executed.

KEEPING UP APPEARANCES; or a Tale of the Rich and Poor. 18mo. pp. 194.

RICHES HAVE WINGS; or a Tale for the Rich and Poor. 1 vol. 18mo. pp. 192. Published as above.

Both of these very handsome little volumes are from the pen of Arthur, whose works are so well known and esteemed by all who prefer the useful and practical in literature, to the sentimental trash which deluges the press at the present day. The first illustrates, in a very charming story, the folly of living beyond one's income, and resorting to means of doubtful propriety for the sake of "keeping up appearances." The second is a no less pleasing tale, in which the writer seeks to impress upon the reader the vanity of dependence upon wealth, and its insufficiency to secure to its possessor lasting happiness. "Riches make to themselves wings and fly away." We heartily commend both these volumes to the public.

A TEXT-BOOK ON NATURAL PHILOSOPHY; For the Use of Schools and Colleges, containing the most recent discoveries and facts, compiled from the best authorities. By J. W. Draper, Professor of Chemistry in the University of New York, with nearly 400 Illustrations. New York: Harper & Brothers, pp. 380, 12mo. Price 75 cents. The study of Natural Philosophy, in the present age of improvement, is considered as an indispensable branch of education, even in our common schools—no matter what the capacity of the pupil may be, however ignorant, at the commencement, or whatever may be his future occupation. To the farmer, the artisan, the lawyer, the physician, or the divine, the study of this pleasing branch of science presents a view of the laws and relations of those objects with which he is the most familiar, and are essential to be known for the performance of the ordinary occupations of life.

The plan of the work before us is similar to that of the Text-Book on Chemistry, by the same author, giving a general view of the great features of this science in an agreeable and comprehensive manner, which, with the aid of a good teacher, may be understood by all.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, SEPTEMBER 23, 1847.

ASHES, Pots,.....per 100 lbs.	\$5 31	to	\$5 38
Pearls,.....do.	6 44	"	6 50
BALE ROPE,.....lb.	5	"	6
BARK, Quercitron,.....ton,	35 00	"	36 00
BEANS, White,.....bush.	1 00	"	1 25
BEESWAX, Am. Yellow,.....lb.	24	"	30
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	45	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	11	"	13
Sperm,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	12
COTTON,.....do.	10	"	14
COTTON BAGGING, Amer. hemp,.....yard,	11	"	14
FEATHERS,.....lb.	25	"	34
FLAX, American,.....do.	7 1/2	"	9
FLOUR, Northern and Western,.....bbl.	5 00	"	5 75
Fancy,.....do.	6 00	"	6 25
Southern,.....do.	5 00	"	5 75
Richmond City Mills,.....do.	—	"	—
Buckwheat,.....do.	—	"	—
Rye,.....do.	3 75	"	4 25
GRAIN—Wheat, Western,.....bush.	1 00	"	1 25
Southern,.....do.	1 00	"	1 15
Rye,.....do.	75	"	76
Corn, Northern,.....do.	65	"	67
Southern,.....do.	60	"	63
Barley,.....do.	65	"	66
Oats, Northern,.....do.	44	"	46
Southern,.....do.	40	"	45
GUANO,.....do.	2 50	"	3 00
HAY, in bales,.....100 lbs.	40	"	50
HEMP, Russia, clean,.....ton.	225 00	"	230 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	7	"	9
HOPS,.....lb.	10	"	15
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	4 12	"	4 25
Sheet and bar,.....lb.	4 1/2	"	5 1/2
MEAL, Corn,.....bbl.	2 50	"	3 00
Corn,.....hhd.	17 50	"	18 00
MOLASSES, New Orleans,.....gal.	35	"	36
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 38	"	2 62
Pitch,.....do.	81	"	1 00
Rosin,.....do.	60	"	75
Turpentine,.....do.	3 25	"	3 31
Spirits Turpentine, Southern,.....gal.	51	"	52
OIL, Linseed, American,.....do.	65	"	75
Castor,.....do.	1 20	"	1 25
Lard,.....do.	80	"	85
OIL CAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	1 00	"	1 25
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls.,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	10 00	"	13 00
Prime,.....do.	8 00	"	9 00
Smoked,.....lb.	7	"	11
Rounds, in pickle,.....do.	5	"	7
Fork, Mess,.....bbl.	13 00	"	14 00
Prime,.....do.	10 00	"	12 00
Lard,.....lb.	9	"	10 1/2
Bacon sides, Smoked,.....do.	6	"	8
In pickle,.....do.	5	"	7
Hams, Smoked,.....do.	8	"	12
Pickled,.....do.	6	"	10
Shoulders, Smoked,.....do.	6	"	8
Pickled,.....do.	5	"	7
RICE,.....100 lbs.	5 00	"	6 00
SALT,.....sack,	1 45	"	1 55
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	6	"	9
Timothy,.....bush.	1 75	"	3 50
Flax, clean,.....do.	10 00	"	11 00
rough,.....do.	9 25	"	9 50
SODA, Ash, cont'g 80 per cent. soda,.....lb.	3	"	3
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	6	"	9
SUMAC, American,.....ton,	35 00	"	37 00
TALLOW,.....lb.	9	"	10
TORACCO,.....do.	3	"	8
WHISKEY, American,.....gal.	27	"	28
WOOLS, Saxony,.....lb.	35	"	60
Merino,.....do.	30	"	35
Half blood,.....do.	20	"	25
Common do,.....do.	18	"	20

REMARKS.—Very little change has been made since our last in prices. The farmers are so well able to hold their produce that it is not pressed upon the market, and the consequence is, that the recent continued fall in grain and provisions in Europe has had little effect on our market.

Money continues plenty and business good.

The Weather. Early frosts have set in this month, about the latitude of 42° and above, and have done considerable injury to the corn, and some other products. Potatoes are suffering a good deal in various quarters from the rot. Our late advices from the South, especially in Mississippi, speak of the alarming appearance of the cotton worm in large numbers. It is feared its effects may again be disastrous; though in consequence of the lateness of the season, it cannot commit anything like the injury it did last year. All other Southern crops promise well.

ACKNOWLEDGMENTS.—Premium List of the Queen's County Agricultural Society at its Sixth Annual Exhibition, to be held at Hempstead, L. I., October 8th; Catalogue of Selected Roses, cultivated and for sale at the Commercial Garden and Nursery of Parsons & Co., of Flushing, Long Island; also, samples of Brown Corn from J. H. Woolsey, Dr. H. A. Field, and others.

To CORRESPONDENTS.—Communications have been received from Solon Robinson, A New Yorker, E. S., and Dr. H. A. Field.

H. of Vicksburg, is informed that boiling salt-water offers the best means of driving ants out of his strawberry-beds. It would be better to find their dens and pour hot water in there. Spirits of turpentine will drive them away, but it is feared that it would render the ground permanently unfit for the plants to grow in. For destroying ants in dwellings, &c., see p. 36, of the current volume.

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Troy, June 15th, 1847.

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